Chapter 1: A Short Introduction to Reactive Programming

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
One
2
Three
Four
4.5
Five
6.0

Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
The number is Even
The number is Odd

Process finished with exit code 0
```
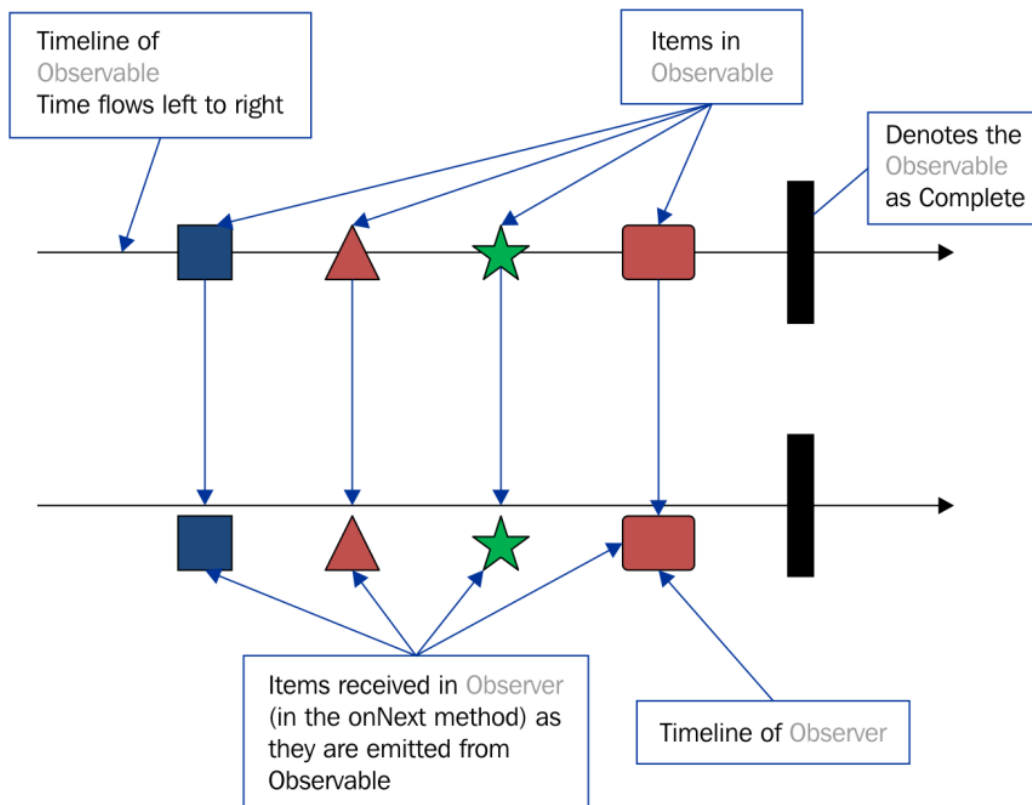
```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
Initial Out put with a = 15, b = 10
Add = 25
Substract = 5
Multiply = 150
Divide = 1.5
Enter a = <number> or b = <number> in separate lines
exit to exit the program
a=21
Add = 31
Substract = 11
Multiply = 210
Divide = 2.1
b=40
Add = 61
Substract = -19
Multiply = 840
Divide = 0.525
exit

Process finished with exit code 0
```

Chapter 2: Functional Programming with Kotlin and RxKotlin

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
Sum 26
random output 24

Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
1 Output 2
2 Output 6
3 Output 12
4 Output 20
5 Output 30
6 Output 42
7 Output 56
8 Output 72
9 Output 90
10 Output 110

Process finished with exit code 0
```

Chapter 3: Observables, Observers, and Subjects

Timeline of Observable
Time flows left to right

Items in Observable

Denotes the Observable as Complete

Items received in Observer (in the onNext method) as they are emitted from Observable

Timeline of Observer

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
Subscribed to io.reactivex.internal.operators.observable.ObservableFromIterable$FromIterableDisposable@504bae78
Next One
Next 2
Next Three
Next Four
Next 4.5
Next Five
Next 6.0
All Completed
Subscribed to io.reactivex.internal.operators.observable.ObservableFromArray$FromArrayDisposable@484b61fc
Next [One, 2, Three, Four, 4.5, Five, 6.0]
Next [List with Single Item]
Next [1, 2, 3, 4, 5, 6]
All Completed

Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
New Subscription
Next Emit 1
Next Emit 2
Next Emit 3
Next Emit 4
All Completed
New Subscription
Next Emit 1
Next Emit 2
Next Emit 3
Next Emit 4
Error Occured My Custom Exception

Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
New Subscription
Next String 1
Next String 2
Next String 3
Next String 4
All Completed
New Subscription
Next From Callable
All Completed
New Subscription
Next Hello From Future
All Completed

Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
New Subscription
Next String 1
Next String 2
Next String 3
Next String 4
All Completed

Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
New Subscription
Next A String
All Completed
New Subscription
Next 54
All Completed
New Subscription
Next [String 1, String 2, String 3, String 4]
All Completed
New Subscription
Next {Key 1=Value 1, Key 2=Value 2, Key 3=Value 3}
All Completed
New Subscription
Next [1, 2, 3, 4, 5, 6]
All Completed
New Subscription
Next String 1
Next String 2
Next String 3
All Completed

Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
New Subscription
Next 1
Next 2
Next 3
Next 4
Next 5
Next 6
Next 7
Next 8
Next 9
Next 10
All Completed
New Subscription
All Completed
New Subscription
Next 0
Next 1
Next 2
New Subscription
Next 3
Next 0
All Completed

Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
Next 1
Next 2
Next 3
Next 4
Next 5
Done
New Subscription
Next 1
Next 2
Next 3
Next 4
Next 5
All Completed

Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
Received String 1
Received String 2
Received String 3
Received String 4
Done
Received String 1
Received String 2
Received String 3
Received String 4
Done

Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
Subscription 1: String 1
Subscription 2 1 gnirtS
Subscription 1: String 2
Subscription 2 2 gnirtS
Subscription 1: String 3
Subscription 2 3 gnirtS
Subscription 1: String 4
Subscription 2 4 gnirtS
Subscription 1: String 5
Subscription 2 5 gnirtS

Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
Subscription 1: 0
Subscription 2 0
Subscription 1: 1
Subscription 2 1
Subscription 1: 2
Subscription 2 2
Subscription 1: 3
Subscription 2 3
Subscription 1: 4
Subscription 2 4
Subscription 1: 5
Subscription 2 5
Subscription 3: 5
Subscription 1: 6
Subscription 2 6
Subscription 3: 6
Subscription 1: 7
Subscription 2 7
Subscription 3: 7
Subscription 1: 8
Subscription 2 8
Subscription 3: 8
Subscription 1: 9
Subscription 2 9
Subscription 3: 9
Subscription 1: 10
Subscription 2 10
Subscription 3: 10

Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
Received 0
Received 1
Received 2
Received 3
Received 4
Received 5
Received 6
Received 7
Received 8
Received 9
Received 10

Process finished with exit code 0
```
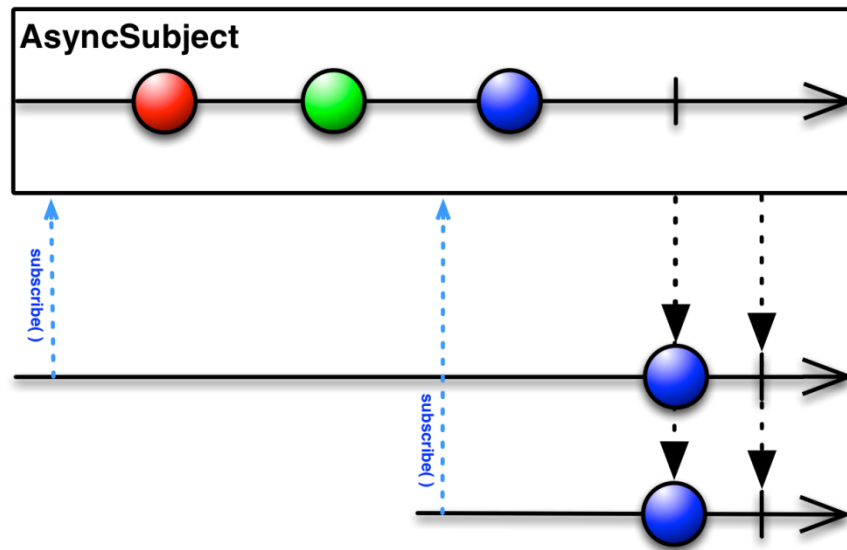
```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
S1 Received 5
S1 Complete
S2 Received 5
S2 Complete

Process finished with exit code 0
```
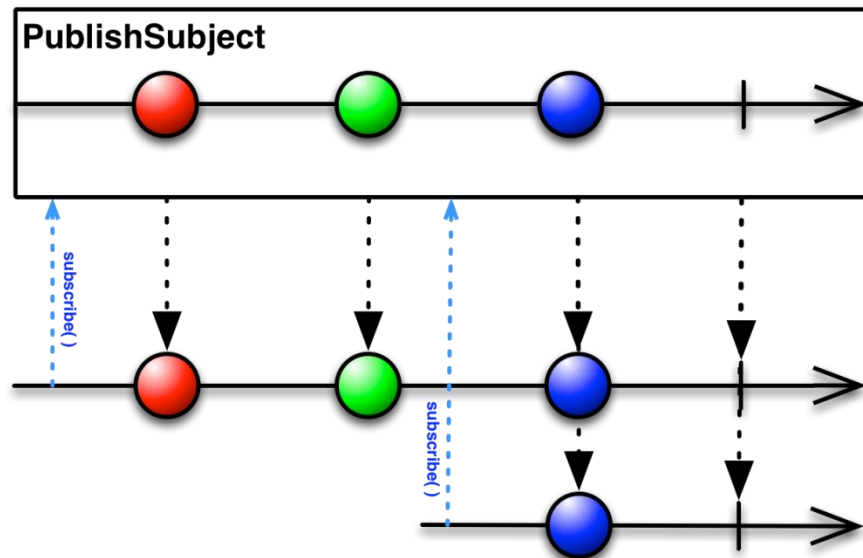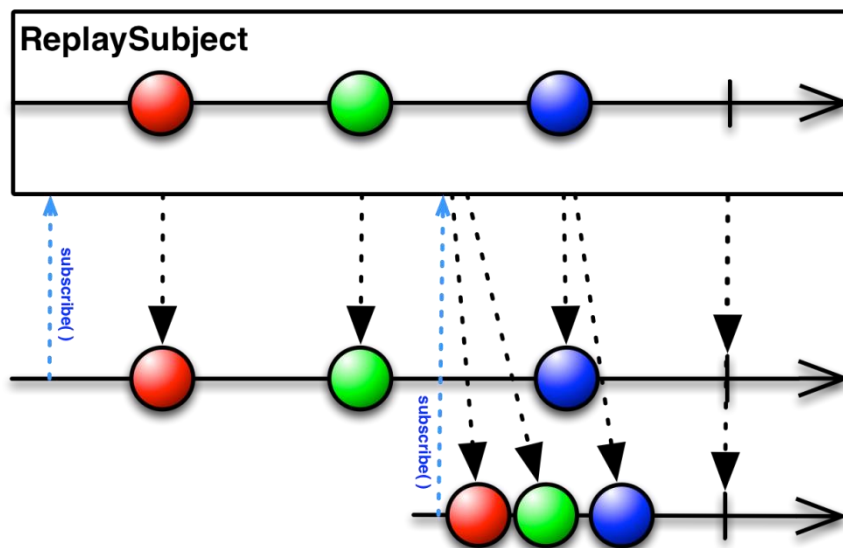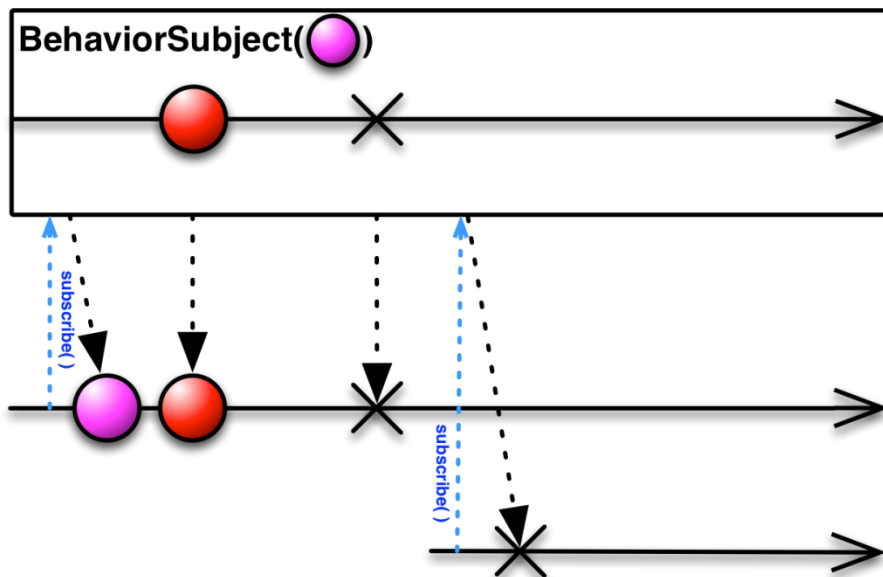
Chapter 4: Introduction to Backpressure and Flowables


```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
Subs 1 Received 1
Subs 2 Received 1
Subs 2 Received 2
Subs 2 Received 3
Subs 2 Received 4
Subs 2 Received 5
Subs 2 Received 6
Subs 2 Received 7
Subs 2 Received 8
Subs 2 Received 9
Subs 1 Received 2
Subs 1 Received 3
Subs 1 Received 4
Subs 1 Received 5
Subs 1 Received 6
Subs 1 Received 7
Subs 1 Received 8
Subs 1 Received 9

Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
MyItem Created 1
MyItem Created 2
MyItem Created 3
MyItem Created 4
MyItem Created 5
MyItem Created 6
MyItem Created 7
MyItem Created 8
MyItem Created 9
Received MyItem(id=1)
Received MyItem(id=2)
Received MyItem(id=3)
Received MyItem(id=4)
Received MyItem(id=5)
Received MyItem(id=6)
Received MyItem(id=7)
Received MyItem(id=8)
Received MyItem(id=9)

Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
MyItem Created 1;    MyItem Created 2;    MyItem Created 3;    MyItem Created 4;    MyItem Created 5;    MyItem Created 6;    MyItem Created 7;    MyItem ♪
♪Created 8; MyItem Created 9;    MyItem Created 10;  MyItem Created 11;  MyItem Created 12;  MyItem Created 13;  MyItem Created 14;  MyItem Created ♪
♪15;    MyItem Created 16;  MyItem Created 17;  MyItem Created 18;  MyItem Created 19;  MyItem Created 20;  MyItem Created 21;  MyItem Created ♪
♪22;    MyItem Created 23;  MyItem Created 24;  MyItem Created 25;  MyItem Created 26;  MyItem Created 27;  MyItem Created 28;  MyItem Created ♪
♪29;    MyItem Created 30;  MyItem Created 31;  MyItem Created 32;  MyItem Created 33;  MyItem Created 34;  MyItem Created 35;  MyItem Created ♪
♪36;    MyItem Created 37;  MyItem Created 38;  MyItem Created 39;  MyItem Created 40;  MyItem Created 41;  MyItem Created 42;  MyItem Created ♪
♪43;    MyItem Created 44;  MyItem Created 45;  MyItem Created 46;  MyItem Created 47;  MyItem Created 48;  MyItem Created 49;  MyItem Created ♪
♪50;    MyItem Created 51;  MyItem Created 52;  MyItem Created 53;  MyItem Created 54;  MyItem Created 55;  MyItem Created 56;  MyItem Created ♪
♪57;    MyItem Created 58;  MyItem Created 59;  MyItem Created 60;  MyItem Created 61;  MyItem Created 62;  MyItem Created 63;  MyItem Created ♪
♪64;    MyItem Created 65;  MyItem Created 66;  MyItem Created 67;  MyItem Created 68;  MyItem Created 69;  MyItem Created 70;  MyItem Created ♪
♪71;    MyItem Created 72;  MyItem Created 73;  MyItem Created 74;  MyItem Created 75;  MyItem Created 76;  MyItem Created 77;  MyItem Created ♪
♪78;    MyItem Created 79;  MyItem Created 80;  MyItem Created 81;  MyItem Created 82;  MyItem Created 83;  MyItem Created 84;  MyItem Created ♪
♪85;    MyItem Created 86;  MyItem Created 87;  MyItem Created 88;  MyItem Created 89;  MyItem Created 90;  MyItem Created 91;  MyItem Created ♪
♪92;    MyItem Created 93;  MyItem Created 94;  MyItem Created 95;  MyItem Created 96;  MyItem Created 97;  MyItem Created 98;  MyItem Created ♪
♪99;    MyItem Created 100; MyItem Created 101; MyItem Created 102; MyItem Created 103; MyItem Created 104; MyItem Created 105; MyItem Created ♪
♪106;   MyItem Created 107; MyItem Created 108; MyItem Created 109; MyItem Created 110; MyItem Created 111; MyItem Created 112; MyItem Created ♪
♪113;   MyItem Created 114; MyItem Created 115; MyItem Created 116; MyItem Created 117; MyItem Created 118; MyItem Created 119; MyItem Created ♪
♪120;   MyItem Created 121; MyItem Created 122; MyItem Created 123; MyItem Created 124; MyItem Created 125; MyItem Created 126; MyItem Created ♪
♪127;   MyItem Created 128; MyItem Created 129; MyItem Created 130; MyItem Created 131; MyItem Created 132; MyItem Created 133; MyItem Created ♪
♪134;   MyItem Created 135; MyItem Created 136; MyItem Created 137; MyItem Created 138; MyItem Created 139; MyItem Created 140; MyItem Created ♪
♪141;   MyItem Created 142; MyItem Created 143; MyItem Created 144; MyItem Created 145; MyItem Created 146; MyItem Created 147; MyItem Created ♪
♪148;   MyItem Created 149; MyItem Created 150; MyItem Created 151; MyItem Created 152; MyItem Created 153; MyItem Created 154; MyItem Created ♪
♪155;   MyItem Created 156; MyItem Created 157; MyItem Created 158; MyItem Created 159; MyItem Created 160; MyItem Created 161; MyItem Created ♪
♪162;   MyItem Created 163; MyItem Created 164; MyItem Created 165; MyItem Created 166; MyItem Created 167; MyItem Created 168; MyItem Created ♪
♪169;   MyItem Created 170; MyItem Created 171; MyItem Created 172; MyItem Created 173; MyItem Created 174; MyItem Created 175; MyItem Created ♪
♪176;   MyItem Created 177; MyItem Created 178; MyItem Created 179; MyItem Created 180; MyItem Created 181; MyItem Created 182; MyItem Created ♪
♪183;   MyItem Created 184; MyItem Created 185; MyItem Created 186; MyItem Created 187; MyItem Created 188; MyItem Created 189; MyItem Created ♪

♪903;   MyItem Created 904; MyItem Created 905; MyItem Created 906; MyItem Created 907; MyItem Created 908; MyItem Created 909; MyItem Created ♪
♪910;   MyItem Created 911; MyItem Created 912; MyItem Created 913; MyItem Created 914; MyItem Created 915; MyItem Created 916; MyItem Created ♪
♪917;   MyItem Created 918; MyItem Created 919; MyItem Created 920; MyItem Created 921; MyItem Created 922; MyItem Created 923; MyItem Created ♪
♪924;   MyItem Created 925; MyItem Created 926; MyItem Created 927; MyItem Created 928; MyItem Created 929; MyItem Created 930; MyItem Created ♪
♪931;   MyItem Created 932; MyItem Created 933; MyItem Created 934; MyItem Created 935; MyItem Created 936; MyItem Created 937; MyItem Created ♪
♪938;   MyItem Created 939; MyItem Created 940; MyItem Created 941; MyItem Created 942; MyItem Created 943; MyItem Created 944; MyItem Created ♪
♪945;   MyItem Created 946; MyItem Created 947; MyItem Created 948; MyItem Created 949; MyItem Created 950; MyItem Created 951; MyItem Created ♪
♪952;   MyItem Created 953; MyItem Created 954; MyItem Created 955; MyItem Created 956; MyItem Created 957; MyItem Created 958; MyItem Created ♪
♪959;   MyItem Created 960; MyItem Created 961; MyItem Created 962; MyItem Created 963; MyItem Created 964; MyItem Created 965; MyItem Created ♪
♪966;   MyItem Created 967; MyItem Created 968; MyItem Created 969; MyItem Created 970; MyItem Created 971; MyItem Created 972; MyItem Created ♪
♪973;   MyItem Created 974; MyItem Created 975; MyItem Created 976; MyItem Created 977; MyItem Created 978; MyItem Created 979; MyItem Created ♪
♪980;   MyItem Created 981; MyItem Created 982; MyItem Created 983; MyItem Created 984; MyItem Created 985; MyItem Created 986; MyItem Created ♪
♪987;   MyItem Created 988; MyItem Created 989; MyItem Created 990; MyItem Created 991; MyItem Created 992; MyItem Created 993; MyItem Created ♪
♪994;   MyItem Created 995; MyItem Created 996; MyItem Created 997; MyItem Created 998; MyItem Created 999; MyItem Created 1000;    Received ♪
♪MyItem3(id=2); Received MyItem3(id=3); Received MyItem3(id=4); Received MyItem3(id=5); Received MyItem3(id=6); Received MyItem3(id=7); Received ♪
♪MyItem3(id=8); Received MyItem3(id=9); Received MyItem3(id=10);    Received MyItem3(id=11);    Received MyItem3(id=12);    Received MyItem3(id=13)♪
♪; Received MyItem3(id=14);    Received MyItem3(id=15);    Received MyItem3(id=16);    Received MyItem3(id=17);    Received MyItem3(id=18);    ♪
♪Received MyItem3(id=19);    Received MyItem3(id=20);    Received MyItem3(id=21);    Received MyItem3(id=22);    Received MyItem3(id=23);    Received ♪
♪MyItem3(id=24);    Received MyItem3(id=25);    Received MyItem3(id=26);    Received MyItem3(id=27);    Received MyItem3(id=28);    Received ♪
♪MyItem3(id=29);    Received MyItem3(id=30);    Received MyItem3(id=31);    Received MyItem3(id=32);    Received MyItem3(id=33);    Received ♪
♪MyItem3(id=34);    Received MyItem3(id=35);    Received MyItem3(id=36);    Received MyItem3(id=37);    Received MyItem3(id=38);    Received ♪
♪MyItem3(id=39);    Received MyItem3(id=40);    Received MyItem3(id=41);    Received MyItem3(id=42);    Received MyItem3(id=43);    Received ♪
♪MyItem3(id=44);    Received MyItem3(id=45);    Received MyItem3(id=46);    Received MyItem3(id=47);    Received MyItem3(id=48);    Received ♪
♪MyItem3(id=49);    Received MyItem3(id=50);    Received MyItem3(id=51);    Received MyItem3(id=52);    Received MyItem3(id=53);    Received ♪
♪MyItem3(id=54);    Received MyItem3(id=55);    Received MyItem3(id=56);    Received MyItem3(id=57);    Received MyItem3(id=58);    Received ♪
♪MyItem3(id=59);    Received MyItem3(id=60);    Received MyItem3(id=61);    Received MyItem3(id=62);    Received MyItem3(id=63);    Received ♪
♪MyItem3(id=64);    Received MyItem3(id=65);    Received MyItem3(id=66);    Received MyItem3(id=67);    Received MyItem3(id=68);    Received ♪
♪MyItem3(id=69);    Received MyItem3(id=70);    Received MyItem3(id=71);    Received MyItem3(id=72);    Received MyItem3(id=73);    Received ♪
♪MyItem3(id=74);    Received MyItem3(id=75);    Received MyItem3(id=76);    Received MyItem3(id=77);    Received MyItem3(id=78);    Received ♪
♪MyItem3(id=79);    Received MyItem3(id=80);    Received MyItem3(id=81);    Received MyItem3(id=82);    Received MyItem3(id=83);    Received ♪

MyItem3(id=954);    Received MyItem3(id=955);    Received MyItem3(id=956);    Received MyItem3(id=957);    Received MyItem3(id=958);    Received
MyItem3(id=959);    Received MyItem3(id=960);    Received MyItem3(id=961);    Received MyItem3(id=962);    Received MyItem3(id=963);    Received
MyItem3(id=964);    Received MyItem3(id=965);    Received MyItem3(id=966);    Received MyItem3(id=967);    Received MyItem3(id=968);    Received
MyItem3(id=969);    Received MyItem3(id=970);    Received MyItem3(id=971);    Received MyItem3(id=972);    Received MyItem3(id=973);    Received
MyItem3(id=974);    Received MyItem3(id=975);    Received MyItem3(id=976);    Received MyItem3(id=977);    Received MyItem3(id=978);    Received
MyItem3(id=979);    Received MyItem3(id=980);    Received MyItem3(id=981);    Received MyItem3(id=982);    Received MyItem3(id=983);    Received
MyItem3(id=984);    Received MyItem3(id=985);    Received MyItem3(id=986);    Received MyItem3(id=987);    Received MyItem3(id=988);    Received
MyItem3(id=989);    Received MyItem3(id=990);    Received MyItem3(id=991);    Received MyItem3(id=992);    Received MyItem3(id=993);    Received
MyItem3(id=994);    Received MyItem3(id=995);    Received MyItem3(id=996);    Received MyItem3(id=997);    Received MyItem3(id=998);    Received
MyItem3(id=999);    Received MyItem3(id=1000);
Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
MyItem Created 1;   MyItem Created 2;   Received MyItem4(id=1); MyItem Created 3;   MyItem Created 4;   MyItem Created 5;   MyItem Created
6; MyItem Created 7;   MyItem Created 8;   MyItem Created 9;   MyItem Created 10;  MyItem Created 11;  MyItem Created 12;  MyItem Created
13;    MyItem Created 14;  MyItem Created 15;  MyItem Created 16;  MyItem Created 17;  MyItem Created 18;  MyItem Created 19;  MyItem Created
20;    MyItem Created 21;  MyItem Created 22;  MyItem Created 23;  MyItem Created 24;  MyItem Created 25;  MyItem Created 26;  MyItem Created
27;    MyItem Created 28;  MyItem Created 29;  MyItem Created 30;  MyItem Created 31;  MyItem Created 32;  MyItem Created 33;  MyItem Created
34;    MyItem Created 35;  MyItem Created 36;  MyItem Created 37;  MyItem Created 38;  MyItem Created 39;  MyItem Created 40;  MyItem Created
41;    MyItem Created 42;  MyItem Created 43;  MyItem Created 44;  MyItem Created 45;  MyItem Created 46;  MyItem Created 47;  MyItem Created
48;    MyItem Created 49;  MyItem Created 50;  MyItem Created 51;  MyItem Created 52;  MyItem Created 53;  MyItem Created 54;  MyItem Created
55;    MyItem Created 56;  MyItem Created 57;  MyItem Created 58;  MyItem Created 59;  MyItem Created 60;  MyItem Created 61;  MyItem Created
62;    MyItem Created 63;  MyItem Created 64;  MyItem Created 65;  MyItem Created 66;  MyItem Created 67;  MyItem Created 68;  MyItem Created
69;    MyItem Created 70;  MyItem Created 71;  MyItem Created 72;  MyItem Created 73;  MyItem Created 74;  MyItem Created 75;  MyItem Created
76;    MyItem Created 77;  MyItem Created 78;  MyItem Created 79;  MyItem Created 80;  MyItem Created 81;  MyItem Created 82;  MyItem Created
83;    MyItem Created 84;  MyItem Created 85;  MyItem Created 86;  MyItem Created 87;  MyItem Created 88;  MyItem Created 89;  MyItem Created
90;    MyItem Created 91;  MyItem Created 92;  MyItem Created 93;  MyItem Created 94;  MyItem Created 95;  MyItem Created 96;  MyItem Created
97;    MyItem Created 98;  MyItem Created 99;  MyItem Created 100; MyItem Created 101; MyItem Created 102; MyItem Created 103; MyItem Created
104;   MyItem Created 105; MyItem Created 106; MyItem Created 107; MyItem Created 108; MyItem Created 109; MyItem Created 110; MyItem Created
111;   MyItem Created 112; MyItem Created 113; MyItem Created 114; MyItem Created 115; MyItem Created 116; MyItem Created 117; MyItem Created
118;   MyItem Created 119; MyItem Created 120; MyItem Created 121; MyItem Created 122; MyItem Created 123; MyItem Created 124; MyItem Created
125;   MyItem Created 126; MyItem Created 127; MyItem Created 128; Received MyItem4(id=2); Received MyItem4(id=3); Received MyItem4(id=4); Received
MyItem4(id=5); Received MyItem4(id=6); Received MyItem4(id=7); Received MyItem4(id=8); Received MyItem4(id=9); Received MyItem4(id=10);    Received
MyItem4(id=11);    Received MyItem4(id=12);    Received MyItem4(id=13);    Received MyItem4(id=14);    Received MyItem4(id=15);    Received
MyItem4(id=16);    Received MyItem4(id=17);    Received MyItem4(id=18);    Received MyItem4(id=19);    Received MyItem4(id=20);    Received
MyItem4(id=21);    Received MyItem4(id=22);    Received MyItem4(id=23);    Received MyItem4(id=24);    Received MyItem4(id=25);    Received
MyItem4(id=26);    Received MyItem4(id=27);    Received MyItem4(id=28);    Received MyItem4(id=29);    Received MyItem4(id=30);    Received
MyItem4(id=31);    Received MyItem4(id=32);    Received MyItem4(id=33);    Received MyItem4(id=34);    Received MyItem4(id=35);    Received
MyItem4(id=36);    Received MyItem4(id=37);    Received MyItem4(id=38);    Received MyItem4(id=39);    Received MyItem4(id=40);    Received
MyItem4(id=41);    Received MyItem4(id=42);    Received MyItem4(id=43);    Received MyItem4(id=44);    Received MyItem4(id=45);    Received
MyItem4(id=46);    Received MyItem4(id=47);    Received MyItem4(id=48);    Received MyItem4(id=49);    Received MyItem4(id=50);    Received
MyItem4(id=51);    Received MyItem4(id=52);    Received MyItem4(id=53);    Received MyItem4(id=54);    Received MyItem4(id=55);    Received
MyItem4(id=56);    Received MyItem4(id=57);    Received MyItem4(id=58);    Received MyItem4(id=59);    Received MyItem4(id=60);    Received
MyItem4(id=61);    Received MyItem4(id=62);    Received MyItem4(id=63);    Received MyItem4(id=64);    Received MyItem4(id=65);    Received
MyItem4(id=66);    Received MyItem4(id=67);    Received MyItem4(id=68);    Received MyItem4(id=69);    Received MyItem4(id=70);    Received
MyItem4(id=71);    Received MyItem4(id=72);    Received MyItem4(id=73);    Received MyItem4(id=74);    Received MyItem4(id=75);    Received

Created 991;   MyItem Created 992; Received MyItem4(id=865);   Received MyItem4(id=866);   Received MyItem4(id=867);   Received MyItem4(id=868);
Received MyItem4(id=869);  Received MyItem4(id=870);   Received MyItem4(id=871);   Received MyItem4(id=872);   Received MyItem4(id=873);   Received
MyItem4(id=874);   Received MyItem4(id=875);   Received MyItem4(id=876);   Received MyItem4(id=877);   Received MyItem4(id=878);   Received
MyItem4(id=879);   Received MyItem4(id=880);   Received MyItem4(id=881);   Received MyItem4(id=882);   Received MyItem4(id=883);   Received
MyItem4(id=884);   Received MyItem4(id=885);   Received MyItem4(id=886);   Received MyItem4(id=887);   Received MyItem4(id=888);   Received
MyItem4(id=889);   Received MyItem4(id=890);   Received MyItem4(id=891);   Received MyItem4(id=892);   Received MyItem4(id=893);   Received
MyItem4(id=894);   Received MyItem4(id=895);   Received MyItem4(id=896);   Received MyItem4(id=897);   Received MyItem4(id=898);   Received
MyItem4(id=899);   Received MyItem4(id=900);   Received MyItem4(id=901);   Received MyItem4(id=902);   Received MyItem4(id=903);   Received
MyItem4(id=904);   Received MyItem4(id=905);   Received MyItem4(id=906);   Received MyItem4(id=907);   Received MyItem4(id=908);   Received
MyItem4(id=909);   Received MyItem4(id=910);   Received MyItem4(id=911);   Received MyItem4(id=912);   Received MyItem4(id=913);   Received
MyItem4(id=914);   Received MyItem4(id=915);   Received MyItem4(id=916);   Received MyItem4(id=917);   Received MyItem4(id=918);   Received
MyItem4(id=919);   Received MyItem4(id=920);   Received MyItem4(id=921);   Received MyItem4(id=922);   Received MyItem4(id=923);   Received
MyItem4(id=924);   Received MyItem4(id=925);   Received MyItem4(id=926);   Received MyItem4(id=927);   Received MyItem4(id=928);   Received
MyItem4(id=929);   Received MyItem4(id=930);   Received MyItem4(id=931);   Received MyItem4(id=932);   Received MyItem4(id=933);   Received
MyItem4(id=934);   Received MyItem4(id=935);   Received MyItem4(id=936);   Received MyItem4(id=937);   Received MyItem4(id=938);   Received
MyItem4(id=939);   Received MyItem4(id=940);   Received MyItem4(id=941);   Received MyItem4(id=942);   Received MyItem4(id=943);   Received
MyItem4(id=944);   Received MyItem4(id=945);   Received MyItem4(id=946);   Received MyItem4(id=947);   Received MyItem4(id=948);   Received
MyItem4(id=949);   Received MyItem4(id=950);   Received MyItem4(id=951);   Received MyItem4(id=952);   Received MyItem4(id=953);   Received
MyItem4(id=954);   Received MyItem4(id=955);   Received MyItem4(id=956);   Received MyItem4(id=957);   Received MyItem4(id=958);   Received
MyItem4(id=959);   Received MyItem4(id=960);   MyItem Created 993; MyItem Created 994; MyItem Created 995; MyItem Created 996; MyItem Created
997;   MyItem Created 998; MyItem Created 999; MyItem Created 1000;   Received MyItem4(id=961);   Received MyItem4(id=962);   Received MyItem4
(id=963);  Received MyItem4(id=964);   Received MyItem4(id=965);   Received MyItem4(id=966);   Received MyItem4(id=967);   Received MyItem4(id=968)
;  Received MyItem4(id=969);   Received MyItem4(id=970);   Received MyItem4(id=971);   Received MyItem4(id=972);   Received MyItem4(id=973);
Received MyItem4(id=974);  Received MyItem4(id=975);   Received MyItem4(id=976);   Received MyItem4(id=977);   Received MyItem4(id=978);   Received
MyItem4(id=979);   Received MyItem4(id=980);   Received MyItem4(id=981);   Received MyItem4(id=982);   Received MyItem4(id=983);   Received
MyItem4(id=984);   Received MyItem4(id=985);   Received MyItem4(id=986);   Received MyItem4(id=987);   Received MyItem4(id=988);   Received
MyItem4(id=989);   Received MyItem4(id=990);   Received MyItem4(id=991);   Received MyItem4(id=992);   Received MyItem4(id=993);   Received
MyItem4(id=994);   Received MyItem4(id=995);   Received MyItem4(id=996);   Received MyItem4(id=997);   Received MyItem4(id=998);   Received
MyItem4(id=999);   Received MyItem4(id=1000);
Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
MyItem Created 1
MyItem Created 2
MyItem Created 3
MyItem Created 4
MyItem Created 5
MyItem Created 6
MyItem Created 7
MyItem Created 8
MyItem Created 9
MyItem Created 10
MyItem Created 11
MyItem Created 12
MyItem Created 13
MyItem Created 14
MyItem Created 15
Subscriber received MyItem6(id=1)
Subscriber received MyItem6(id=2)
Subscriber received MyItem6(id=3)
Subscriber received MyItem6(id=4)
Subscriber received MyItem6(id=5)
Requesting two more
Subscriber received MyItem6(id=6)
Subscriber received MyItem6(id=7)

Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
New Subscription
Next 1
Next 2
Next 3
Next 4
Next 5
Next 6
Next 7
Next 8
Next 9
Next 10
All Completed

Process finished with exit code 0
```

```
9; MyItem7 init 10;    MyItem7 init 11;    MyItem7 init 12;    MyItem7 init 13;    MyItem7 init 14;    MyItem7 init 15;    MyItem7 init
16;    MyItem7 init 17;    MyItem7 init 18;    MyItem7 init 19;    MyItem7 init 20;    MyItem7 init 21;    MyItem7 init 22;    MyItem7 init
23;    MyItem7 init 24;    MyItem7 init 25;    MyItem7 init 26;    MyItem7 init 27;    MyItem7 init 28;    MyItem7 init 29;    MyItem7 init
30;    MyItem7 init 31;    MyItem7 init 32;    MyItem7 init 33;    MyItem7 init 34;    MyItem7 init 35;    MyItem7 init 36;    MyItem7 init
37;    MyItem7 init 38;    MyItem7 init 39;    MyItem7 init 40;    MyItem7 init 41;    MyItem7 init 42;    MyItem7 init 43;    MyItem7 init
44;    MyItem7 init 45;    MyItem7 init 46;    MyItem7 init 47;    MyItem7 init 48;    MyItem7 init 49;    MyItem7 init 50;    MyItem7 init
51;    MyItem7 init 52;    MyItem7 init 53;    MyItem7 init 54;    MyItem7 init 55;    MyItem7 init 56;    MyItem7 init 57;    MyItem7 init
58;    MyItem7 init 59;    MyItem7 init 60;    MyItem7 init 61;    MyItem7 init 62;    MyItem7 init 63;    MyItem7 init 64;    MyItem7 init
65;    MyItem7 init 66;    MyItem7 init 67;    MyItem7 init 68;    MyItem7 init 69;    MyItem7 init 70;    MyItem7 init 71;    MyItem7 init
72;    MyItem7 init 73;    MyItem7 init 74;    MyItem7 init 75;    MyItem7 init 76;    MyItem7 init 77;    MyItem7 init 78;    MyItem7 init
79;    MyItem7 init 80;    MyItem7 init 81;    MyItem7 init 82;    MyItem7 init 83;    MyItem7 init 84;    MyItem7 init 85;    MyItem7 init
86;    MyItem7 init 87;    MyItem7 init 88;    MyItem7 init 89;    MyItem7 init 90;    MyItem7 init 91;    MyItem7 init 92;    MyItem7 init
93;    MyItem7 init 94;    MyItem7 init 95;    MyItem7 init 96;    MyItem7 init 97;    MyItem7 init 98;    MyItem7 init 99;    MyItem7 init
100;   MyItem7 init 101;   MyItem7 init 102;   MyItem7 init 103;   MyItem7 init 104;   MyItem7 init 105;   MyItem7 init 106;   MyItem7 init
107;   MyItem7 init 108;   MyItem7 init 109;   MyItem7 init 110;   MyItem7 init 111;   MyItem7 init 112;   MyItem7 init 113;   MyItem7 init
114;   MyItem7 init 115;   MyItem7 init 116;   MyItem7 init 117;   MyItem7 init 118;   MyItem7 init 119;   MyItem7 init 120;   MyItem7 init
121;   MyItem7 init 122;   MyItem7 init 123;   MyItem7 init 124;   MyItem7 init 125;   MyItem7 init 126;   MyItem7 init 127;   MyItem7 init
128;   Rec. MyItem7(id=1); Rec. MyItem7(id=2); Rec. MyItem7(id=3); Rec. MyItem7(id=4); Rec. MyItem7(id=5); Rec. MyItem7(id=6); Rec. MyItem7(id=7);
Rec. MyItem7(id=8);    Rec. MyItem7(id=9); Rec. MyItem7(id=10);    Rec. MyItem7(id=11);    Rec. MyItem7(id=12);    Rec. MyItem7(id=13);    Rec.
MyItem7(id=14);    Rec. MyItem7(id=15);    Rec. MyItem7(id=16);    Rec. MyItem7(id=17);    Rec. MyItem7(id=18);    Rec. MyItem7(id=19);    Rec.
MyItem7(id=20);    Rec. MyItem7(id=21);    Rec. MyItem7(id=22);    Rec. MyItem7(id=23);    Rec. MyItem7(id=24);    Rec. MyItem7(id=25);    Rec.
MyItem7(id=26);    Rec. MyItem7(id=27);    Rec. MyItem7(id=28);    Rec. MyItem7(id=29);    Rec. MyItem7(id=30);    Rec. MyItem7(id=31);    Rec.
MyItem7(id=32);    Rec. MyItem7(id=33);    Rec. MyItem7(id=34);    Rec. MyItem7(id=35);    Rec. MyItem7(id=36);    Rec. MyItem7(id=37);    Rec.
MyItem7(id=38);    Rec. MyItem7(id=39);    Rec. MyItem7(id=40);    Rec. MyItem7(id=41);    Rec. MyItem7(id=42);    Rec. MyItem7(id=43);    Rec.
MyItem7(id=44);    Rec. MyItem7(id=45);    Rec. MyItem7(id=46);    Rec. MyItem7(id=47);    Rec. MyItem7(id=48);    Rec. MyItem7(id=49);    Rec.
MyItem7(id=50);    Rec. MyItem7(id=51);    Rec. MyItem7(id=52);    Rec. MyItem7(id=53);    Rec. MyItem7(id=54);    Rec. MyItem7(id=55);    Rec.
MyItem7(id=56);    Rec. MyItem7(id=57);    Rec. MyItem7(id=58);    Rec. MyItem7(id=59);    Rec. MyItem7(id=60);    Rec. MyItem7(id=61);    Rec.
MyItem7(id=62);    Rec. MyItem7(id=63);    Rec. MyItem7(id=64);    Rec. MyItem7(id=65);    Rec. MyItem7(id=66);    Rec. MyItem7(id=67);    Rec.
MyItem7(id=68);    Rec. MyItem7(id=69);    Rec. MyItem7(id=70);    Rec. MyItem7(id=71);    Rec. MyItem7(id=72);    Rec. MyItem7(id=73);    Rec.
MyItem7(id=74);    Rec. MyItem7(id=75);    Rec. MyItem7(id=76);    Rec. MyItem7(id=77);    Rec. MyItem7(id=78);    Rec. MyItem7(id=79);    Rec.
MyItem7(id=80);    Rec. MyItem7(id=81);    Rec. MyItem7(id=82);    Rec. MyItem7(id=83);    Rec. MyItem7(id=84);    Rec. MyItem7(id=85);    Rec.
MyItem7(id=86);    Rec. MyItem7(id=87);    Rec. MyItem7(id=88);    Rec. MyItem7(id=89);    Rec. MyItem7(id=90);    Rec. MyItem7(id=91);    Rec.
MyItem7(id=92);    Rec. MyItem7(id=93);    Rec. MyItem7(id=94);    Rec. MyItem7(id=95);    Rec. MyItem7(id=96);    MyItem7 init 129;    MyItem7 init
130;   MyItem7 init 131;   MyItem7 init 132;   MyItem7 init 133;   MyItem7 init 134;   MyItem7 init 135;   MyItem7 init 136;   MyItem7 init
137;   MyItem7 init 138;   MyItem7 init 139;   MyItem7 init 140;   MyItem7 init 141;   MyItem7 init 142;   MyItem7 init 143;   MyItem7 init
```

```
MyItem Created 120
MyItem Created 121
MyItem Created 122
MyItem Created 123
MyItem8(id=1)
MyItem Created 124
MyItem Created 125
MyItem Created 126
MyItem Created 127
MyItem Created 128
io.reactivex.exceptions.OnErrorNotImplementedException: could not emit value due to lack of requests
    at io.reactivex.internal.functions.Functions$OnErrorMissingConsumer.accept(Functions.java:704)
    at io.reactivex.internal.functions.Functions$OnErrorMissingConsumer.accept(Functions.java:701)
    at io.reactivex.internal.subscribers.LambdaSubscriber.onError(LambdaSubscriber.java:76)
    at io.reactivex.internal.operators.flowable.FlowableObserveOn$BaseObserveOnSubscriber.checkTerminated(FlowableObserveOn.java:207)
    at io.reactivex.internal.operators.flowable.FlowableObserveOn$ObserveOnSubscriber.runAsync(FlowableObserveOn.java:392)
    at io.reactivex.internal.operators.flowable.FlowableObserveOn$BaseObserveOnSubscriber.run(FlowableObserveOn.java:176)
    at io.reactivex.internal.schedulers.ScheduledRunnable.run(ScheduledRunnable.java:61)
    at io.reactivex.internal.schedulers.ScheduledRunnable.call(ScheduledRunnable.java:52)
    at java.util.concurrent.FutureTask.run(FutureTask.java:266)
    at java.util.concurrent.ScheduledThreadPoolExecutor$ScheduledFutureTask.access$201(ScheduledThreadPoolExecutor.java:180)
    at java.util.concurrent.ScheduledThreadPoolExecutor$ScheduledFutureTask.run(ScheduledThreadPoolExecutor.java:293)
    at java.util.concurrent.ThreadPoolExecutor.runWorker(ThreadPoolExecutor.java:1142)
    at java.util.concurrent.ThreadPoolExecutor$Worker.run(ThreadPoolExecutor.java:617)
    at java.lang.Thread.run(Thread.java:748)
Caused by: io.reactivex.exceptions.MissingBackpressureException: could not emit value due to lack of requests
    at io.reactivex.internal.operators.flowable.FlowableOnBackpressureError$BackpressureErrorSubscriber.onNext(FlowableOnBackpressureError.java:70)
    at io.reactivex.internal.operators.flowable.FlowableFromObservable$SubscriberObserver.onNext(FlowableFromObservable.java:52)
    at io.reactivex.internal.operators.observable.ObservableRange$RangeDisposable.run(ObservableRange.java:64)
    at io.reactivex.internal.operators.observable.ObservableRange.subscribeActual(ObservableRange.java:35)
    at io.reactivex.Observable.subscribe(Observable.java:10842)
    at io.reactivex.internal.operators.flowable.FlowableFromObservable.subscribeActual(FlowableFromObservable.java:29)
    at io.reactivex.Flowable.subscribe(Flowable.java:12986)
```

```
init 1; init 2; init 3; init 4; init 5; init 6; init 7; init 8; init 9; init 10;   init 11;   init 12;   init 13;   init 14;   init 15;   init ♪
%16;   init 17;   init 18;   init 19;   init 20;   init 21;   init 22;   init 23;   init 24;   init 25;   init 26;   init 27;   init ♪
%28;   init 29;   init 30;   init 31;   init 32;   init 33;   init 34;   init 35;   init 36;   init 37;   init 38;   init 39;   init ♪
%40;   init 41;   init 42;   init 43;   init 44;   init 45;   init 46;   init 47;   init 48;   init 49;   init 50;   init 51;   init ♪
%52;   init 53;   init 54;   init 55;   init 56;   init 57;   init 58;   init 59;   init 60;   init 61;   init 62;   init 63;   init ♪
%64;   init 65;   init 66;   init 67;   init 68;   init 69;   init 70;   init 71;   init 72;   init 73;   init 74;   init 75;   init ♪
%76;   init 77;   init 78;   init 79;   init 80;   init 81;   init 82;   init 83;   init 84;   init 85;   init 86;   init 87;   init ♪
%88;   init 89;   init 90;   init 91;   init 92;   init 93;   init 94;   init 95;   init 96;   init 97;   init 98;   init 99;   init ♪
%100; init 101;  init 102;  init 103;  init 104;  init 105;  init 106;  init 107;  init 108;  init 109;  init 110;  init 111;  init ♪
%112; init 113;  init 114;  init 115;  init 116;  init 117;  init 118;  init 119;  init 120;  init 121;  init 122;  init 123;  init ♪
%124; init 125;  init 126;  init 127;  init 128;  Rec MyItem8(id=1);  Rec MyItem8(id=2);  Rec MyItem8(id=3);  Rec MyItem8(id=4);  Rec ♪
%MyItem8(id=5); Rec MyItem8(id=6); Rec MyItem8(id=7);  Rec MyItem8(id=8);  Rec MyItem8(id=9);  Rec MyItem8(id=10); Rec MyItem8(id=11); Rec ♪
%MyItem8(id=12);     Rec MyItem8(id=13); Rec MyItem8(id=14); Rec MyItem8(id=15); Rec MyItem8(id=16); Rec MyItem8(id=17); Rec MyItem8(id=18); Rec ♪
%MyItem8(id=19);     Rec MyItem8(id=20); Rec MyItem8(id=21); Rec MyItem8(id=22); Rec MyItem8(id=23); Rec MyItem8(id=24); Rec MyItem8(id=25); Rec ♪
%MyItem8(id=26);     Rec MyItem8(id=27); Rec MyItem8(id=28); Rec MyItem8(id=29); Rec MyItem8(id=30); Rec MyItem8(id=31); Rec MyItem8(id=32); Rec ♪
%MyItem8(id=33);     Rec MyItem8(id=34); Rec MyItem8(id=35); Rec MyItem8(id=36); Rec MyItem8(id=37); Rec MyItem8(id=38); Rec MyItem8(id=39); Rec ♪
%MyItem8(id=40);     Rec MyItem8(id=41); Rec MyItem8(id=42); Rec MyItem8(id=43); Rec MyItem8(id=44); Rec MyItem8(id=45); Rec MyItem8(id=46); Rec ♪
%MyItem8(id=47);     Rec MyItem8(id=48); Rec MyItem8(id=49); Rec MyItem8(id=50); Rec MyItem8(id=51); Rec MyItem8(id=52); Rec MyItem8(id=53); Rec ♪
%MyItem8(id=54);     Rec MyItem8(id=55); Rec MyItem8(id=56); Rec MyItem8(id=57); Rec MyItem8(id=58); Rec MyItem8(id=59); Rec MyItem8(id=60); Rec ♪
%MyItem8(id=61);     Rec MyItem8(id=62); Rec MyItem8(id=63); Rec MyItem8(id=64); Rec MyItem8(id=65); Rec MyItem8(id=66); Rec MyItem8(id=67); Rec ♪
%MyItem8(id=68);     Rec MyItem8(id=69); Rec MyItem8(id=70); Rec MyItem8(id=71); Rec MyItem8(id=72); Rec MyItem8(id=73); Rec MyItem8(id=74); Rec ♪
%MyItem8(id=75);     Rec MyItem8(id=76); Rec MyItem8(id=77); Rec MyItem8(id=78); Rec MyItem8(id=79); Rec MyItem8(id=80); Rec MyItem8(id=81); Rec ♪
%MyItem8(id=82);     Rec MyItem8(id=83); Rec MyItem8(id=84); Rec MyItem8(id=85); Rec MyItem8(id=86); Rec MyItem8(id=87); Rec MyItem8(id=88); Rec ♪
%MyItem8(id=89);     Rec MyItem8(id=90); Rec MyItem8(id=91); Rec MyItem8(id=92); Rec MyItem8(id=93); Rec MyItem8(id=94); Rec MyItem8(id=95); Rec ♪
%MyItem8(id=96);     Rec MyItem8(id=97); Rec MyItem8(id=98); Rec MyItem8(id=99); Rec MyItem8(id=100);   Rec MyItem8(id=101);   Rec MyItem8(id=102)♪
%;   Rec MyItem8(id=103);    Rec MyItem8(id=104);    Rec MyItem8(id=105);    Rec MyItem8(id=106);    Rec MyItem8(id=107);    Rec MyItem8(id=108);   ♪
%Rec MyItem8(id=109);    Rec MyItem8(id=110);    Rec MyItem8(id=111);    Rec MyItem8(id=112);    Rec MyItem8(id=113);    Rec MyItem8(id=114);   Rec ♪
%MyItem8(id=115);    Rec MyItem8(id=116);    Rec MyItem8(id=117);    Rec MyItem8(id=118);    Rec MyItem8(id=119);    Rec MyItem8(id=120);    Rec ♪
%MyItem8(id=121);    Rec MyItem8(id=122);    Rec MyItem8(id=123);    Rec MyItem8(id=124);    Rec MyItem8(id=125);    Rec MyItem8(id=126);    Rec ♪
%MyItem8(id=127);    Rec MyItem8(id=128);
```

```
MyItem Created 122
MyItem Created 123
MyItem Created 124
MyItem Created 125
MyItem Created 126
MyItem Created 127
MyItem Created 128
io.reactivex.exceptions.OnErrorNotImplementedException: Buffer is full
    at io.reactivex.internal.functions.Functions$OnErrorMissingConsumer.accept(Functions.java:704)
    at io.reactivex.internal.functions.Functions$OnErrorMissingConsumer.accept(Functions.java:701)
    at io.reactivex.internal.subscribers.LambdaSubscriber.onError(LambdaSubscriber.java:76)
    at io.reactivex.internal.operators.flowable.FlowableObserveOn$BaseObserveOnSubscriber.checkTerminated(FlowableObserveOn.java:207)
    at io.reactivex.internal.operators.flowable.FlowableObserveOn$ObserveOnSubscriber.runAsync(FlowableObserveOn.java:392)
    at io.reactivex.internal.operators.flowable.FlowableObserveOn$BaseObserveOnSubscriber.run(FlowableObserveOn.java:176)
    at io.reactivex.internal.schedulers.ScheduledRunnable.run(ScheduledRunnable.java:61)
    at io.reactivex.internal.schedulers.ScheduledRunnable.call(ScheduledRunnable.java:52)
    at java.util.concurrent.FutureTask.run(FutureTask.java:266)
    at java.util.concurrent.ScheduledThreadPoolExecutor$ScheduledFutureTask.access$201(ScheduledThreadPoolExecutor.java:180)
    at java.util.concurrent.ScheduledThreadPoolExecutor$ScheduledFutureTask.run(ScheduledThreadPoolExecutor.java:293)
    at java.util.concurrent.ThreadPoolExecutor.runWorker(ThreadPoolExecutor.java:1142)
    at java.util.concurrent.ThreadPoolExecutor$Worker.run(ThreadPoolExecutor.java:617)
    at java.lang.Thread.run(Thread.java:748)
Caused by: io.reactivex.exceptions.MissingBackpressureException: Buffer is full
    at io.reactivex.internal.operators.flowable.FlowableOnBackpressureBuffer$BackpressureBufferSubscriber.onNext(FlowableOnBackpressureBuffer.java:99)
    at io.reactivex.internal.operators.flowable.FlowableFromObservable$SubscriberObserver.onNext(FlowableFromObservable.java:52)
    at io.reactivex.internal.operators.observable.ObservableRange$RangeDisposable.run(ObservableRange.java:64)
    at io.reactivex.internal.operators.observable.ObservableRange.subscribeActual(ObservableRange.java:35)
    at io.reactivex.Observable.subscribe(Observable.java:10842)
    at io.reactivex.internal.operators.flowable.FlowableFromObservable.subscribeActual(FlowableFromObservable.java:29)
    at io.reactivex.Flowable.subscribe(Flowable.java:12986)
    at io.reactivex.internal.operators.flowable.FlowableOnBackpressureBuffer.subscribeActual(FlowableOnBackpressureBuffer.java:46)
```

```
MyItem init 1   MyItem init 2   MyItem init 3   MyItem init 4   MyItem init 5   Rec. MyItem12(id=1);   MyItem init 6   MyItem init 7   MyItem init ⤸
8  MyItem init 9   MyItem init 10  MyItem init 11  MyItem init 12  MyItem init 13  MyItem init 14  MyItem init 15  MyItem init 16  MyItem init ⤸
17 MyItem init 18  MyItem init 19  MyItem init 20  MyItem init 21  MyItem init 22  MyItem init 23  MyItem init 24  MyItem init 25  MyItem init ⤸
26 MyItem init 27  MyItem init 28  MyItem init 29  MyItem init 30  MyItem init 31  MyItem init 32  MyItem init 33  MyItem init 34  MyItem init ⤸
35 MyItem init 36  MyItem init 37  MyItem init 38  MyItem init 39  MyItem init 40  MyItem init 41  MyItem init 42  MyItem init 43  MyItem init ⤸
44 MyItem init 45  MyItem init 46  MyItem init 47  MyItem init 48  MyItem init 49  MyItem init 50  MyItem init 51  MyItem init 52  MyItem init ⤸
53 MyItem init 54  MyItem init 55  MyItem init 56  MyItem init 57  MyItem init 58  MyItem init 59  MyItem init 60  MyItem init 61  MyItem init ⤸
62 MyItem init 63  MyItem init 64  MyItem init 65  MyItem init 66  MyItem init 67  MyItem init 68  MyItem init 69  MyItem init 70  MyItem init ⤸
71 MyItem init 72  MyItem init 73  MyItem init 74  MyItem init 75  MyItem init 76  MyItem init 77  MyItem init 78  MyItem init 79  MyItem init ⤸
80 MyItem init 81  MyItem init 82  MyItem init 83  MyItem init 84  MyItem init 85  MyItem init 86  MyItem init 87  MyItem init 88  MyItem init ⤸
89 MyItem init 90  MyItem init 91  MyItem init 92  MyItem init 93  MyItem init 94  MyItem init 95  MyItem init 96  MyItem init 97  MyItem init ⤸
98 MyItem init 99  MyItem init 100 MyItem init 101 MyItem init 102 MyItem init 103 MyItem init 104 MyItem init 105 MyItem init 106 MyItem init ⤸
107    MyItem init 108 MyItem init 109 MyItem init 110 MyItem init 111 MyItem init 112 MyItem init 113 MyItem init 114 MyItem init 115 MyItem init ⤸
116    MyItem init 117 MyItem init 118 MyItem init 119 MyItem init 120 MyItem init 121 MyItem init 122 MyItem init 123 MyItem init 124 MyItem init ⤸
125    MyItem init 126 MyItem init 127 MyItem init 128 Dropped 129;    Dropped 130;    Dropped 131;    Dropped 132;    Dropped 133;    Dropped ⤸
134;    Dropped 135;    Dropped 136;    Dropped 137;    Dropped 138;    Dropped 139;    Dropped 140;    Dropped 141;    Dropped 142;    Dropped ⤸
143;    Dropped 144;    Dropped 145;    Dropped 146;    Dropped 147;    Dropped 148;    Dropped 149;    Dropped 150;    Dropped 151;    Dropped ⤸

989;    Dropped 990;    Dropped 991;    Dropped 992;    Dropped 993;    Dropped 994;    Dropped 995;    Dropped 996;    Dropped 997;    Dropped ⤸
998;    Dropped 999;    Dropped 1000;   Rec. MyItem12(id=2);   Rec. MyItem12(id=3);   Rec. MyItem12(id=4);   Rec. MyItem12(id=5);   Rec. ⤸
MyItem12(id=6);    Rec. MyItem12(id=7);    Rec. MyItem12(id=8);    Rec. MyItem12(id=9);    Rec. MyItem12(id=10);    Rec. MyItem12(id=11);    Rec. ⤸
MyItem12(id=12);   Rec. MyItem12(id=13);   Rec. MyItem12(id=14);   Rec. MyItem12(id=15);   Rec. MyItem12(id=16);   Rec. MyItem12(id=17);   Rec. ⤸
MyItem12(id=18);   Rec. MyItem12(id=19);   Rec. MyItem12(id=20);   Rec. MyItem12(id=21);   Rec. MyItem12(id=22);   Rec. MyItem12(id=23);   Rec. ⤸
MyItem12(id=24);   Rec. MyItem12(id=25);   Rec. MyItem12(id=26);   Rec. MyItem12(id=27);   Rec. MyItem12(id=28);   Rec. MyItem12(id=29);   Rec. ⤸
MyItem12(id=30);   Rec. MyItem12(id=31);   Rec. MyItem12(id=32);   Rec. MyItem12(id=33);   Rec. MyItem12(id=34);   Rec. MyItem12(id=35);   Rec. ⤸
MyItem12(id=36);   Rec. MyItem12(id=37);   Rec. MyItem12(id=38);   Rec. MyItem12(id=39);   Rec. MyItem12(id=40);   Rec. MyItem12(id=41);   Rec. ⤸
MyItem12(id=42);   Rec. MyItem12(id=43);   Rec. MyItem12(id=44);   Rec. MyItem12(id=45);   Rec. MyItem12(id=46);   Rec. MyItem12(id=47);   Rec. ⤸
MyItem12(id=48);   Rec. MyItem12(id=49);   Rec. MyItem12(id=50);   Rec. MyItem12(id=51);   Rec. MyItem12(id=52);   Rec. MyItem12(id=53);   Rec. ⤸
MyItem12(id=54);   Rec. MyItem12(id=55);   Rec. MyItem12(id=56);   Rec. MyItem12(id=57);   Rec. MyItem12(id=58);   Rec. MyItem12(id=59);   Rec. ⤸
MyItem12(id=60);   Rec. MyItem12(id=61);   Rec. MyItem12(id=62);   Rec. MyItem12(id=63);   Rec. MyItem12(id=64);   Rec. MyItem12(id=65);   Rec. ⤸
MyItem12(id=66);   Rec. MyItem12(id=67);   Rec. MyItem12(id=68);   Rec. MyItem12(id=69);   Rec. MyItem12(id=70);   Rec. MyItem12(id=71);   Rec. ⤸
MyItem12(id=72);   Rec. MyItem12(id=73);   Rec. MyItem12(id=74);   Rec. MyItem12(id=75);   Rec. MyItem12(id=76);   Rec. MyItem12(id=77);   Rec. ⤸
MyItem12(id=78);   Rec. MyItem12(id=79);   Rec. MyItem12(id=80);   Rec. MyItem12(id=81);   Rec. MyItem12(id=82);   Rec. MyItem12(id=83);   Rec. ⤸
MyItem12(id=84);   Rec. MyItem12(id=85);   Rec. MyItem12(id=86);   Rec. MyItem12(id=87);   Rec. MyItem12(id=88);   Rec. MyItem12(id=89);   Rec. ⤸
MyItem12(id=90);   Rec. MyItem12(id=91);   Rec. MyItem12(id=92);   Rec. MyItem12(id=93);   Rec. MyItem12(id=94);   Rec. MyItem12(id=95);   Rec. ⤸
MyItem12(id=96);   Rec. MyItem12(id=97);   Rec. MyItem12(id=98);   Rec. MyItem12(id=99);   Rec. MyItem12(id=100);   Rec. MyItem12(id=101);   Rec. ⤸
MyItem12(id=102);  Rec. MyItem12(id=103);  Rec. MyItem12(id=104);  Rec. MyItem12(id=105);  Rec. MyItem12(id=106);  Rec. MyItem12(id=107);  Rec. ⤸
MyItem12(id=108);  Rec. MyItem12(id=109);  Rec. MyItem12(id=110);  Rec. MyItem12(id=111);  Rec. MyItem12(id=112);  Rec. MyItem12(id=113);  Rec. ⤸
MyItem12(id=114);  Rec. MyItem12(id=115);  Rec. MyItem12(id=116);  Rec. MyItem12(id=117);  Rec. MyItem12(id=118);  Rec. MyItem12(id=119);  Rec. ⤸
MyItem12(id=120);  Rec. MyItem12(id=121);  Rec. MyItem12(id=122);  Rec. MyItem12(id=123);  Rec. MyItem12(id=124);  Rec. MyItem12(id=125);  Rec. ⤸
MyItem12(id=126);  Rec. MyItem12(id=127);  Rec. MyItem12(id=128);
```

```
init 1; init 2; init 3; init 4; init 5; init 6; init 7; init 8; init 9; init 10;   init 11;   init 12;   init 13;   init 14;   init 15;   init
16;   init 17;   init 18;   init 19;   -> MyItem13(id=1);  init 20;   init 21;   init 22;   init 23;   init 24;   init 25;   init
26;   init 27;   init 28;   init 29;   init 30;   init 31;   init 32;   init 33;   init 34;   init 35;   init 36;   init 37;   init
38;   init 39;   init 40;   init 41;   init 42;   init 43;   init 44;   init 45;   init 46;   init 47;   init 48;   init 49;   init
50;   init 51;   init 52;   init 53;   init 54;   init 55;   init 56;   init 57;   init 58;   init 59;   init 60;   init 61;   init
62;   init 63;   init 64;   init 65;   init 66;   init 67;   init 68;   init 69;   init 70;   init 71;   init 72;   init 73;   init
74;   init 75;   init 76;   init 77;   init 78;   init 79;   init 80;   init 81;   init 82;   init 83;   init 84;   init 85;   init
86;   init 87;   init 88;   init 89;   init 90;   init 91;   init 92;   init 93;   init 94;   init 95;   init 96;   init 97;   init
98;   init 99;   init 100;   init 101;   init 102;   init 103;   init 104;   init 105;   init 106;   init 107;   init 108;   init 109;   init
110;   init 111;   init 112;   init 113;   init 114;   init 115;   init 116;   init 117;   init 118;   init 119;   init 120;   init 121;   init
122;   init 123;   init 124;   init 125;   init 126;   init 127;   init 128;   -> MyItem13(id=2);  -> MyItem13(id=3);  -> MyItem13(id=4);  ->
MyItem13(id=5);   -> MyItem13(id=6);  -> MyItem13(id=7);  -> MyItem13(id=8);  -> MyItem13(id=9);  -> MyItem13(id=10);  -> MyItem13(id=11);  ->
MyItem13(id=12);  -> MyItem13(id=13);  -> MyItem13(id=14);  -> MyItem13(id=15);  -> MyItem13(id=16);  -> MyItem13(id=17);  -> MyItem13(id=18);  ->
MyItem13(id=19);  -> MyItem13(id=20);  -> MyItem13(id=21);  -> MyItem13(id=22);  -> MyItem13(id=23);  -> MyItem13(id=24);  -> MyItem13(id=25);  ->
MyItem13(id=26);  -> MyItem13(id=27);  -> MyItem13(id=28);  -> MyItem13(id=29);  -> MyItem13(id=30);  -> MyItem13(id=31);  -> MyItem13(id=32);  ->
MyItem13(id=33);  -> MyItem13(id=34);  -> MyItem13(id=35);  -> MyItem13(id=36);  -> MyItem13(id=37);  -> MyItem13(id=38);  -> MyItem13(id=39);  ->
MyItem13(id=40);  -> MyItem13(id=41);  -> MyItem13(id=42);  -> MyItem13(id=43);  -> MyItem13(id=44);  -> MyItem13(id=45);  -> MyItem13(id=46);  ->
MyItem13(id=47);  -> MyItem13(id=48);  -> MyItem13(id=49);  -> MyItem13(id=50);  -> MyItem13(id=51);  -> MyItem13(id=52);  -> MyItem13(id=53);  ->
MyItem13(id=54);  -> MyItem13(id=55);  -> MyItem13(id=56);  -> MyItem13(id=57);  -> MyItem13(id=58);  -> MyItem13(id=59);  -> MyItem13(id=60);  ->
MyItem13(id=61);  -> MyItem13(id=62);  -> MyItem13(id=63);  -> MyItem13(id=64);  -> MyItem13(id=65);  -> MyItem13(id=66);  -> MyItem13(id=67);  ->
MyItem13(id=68);  -> MyItem13(id=69);  -> MyItem13(id=70);  -> MyItem13(id=71);  -> MyItem13(id=72);  -> MyItem13(id=73);  -> MyItem13(id=74);  ->
MyItem13(id=75);  -> MyItem13(id=76);  -> MyItem13(id=77);  -> MyItem13(id=78);  -> MyItem13(id=79);  -> MyItem13(id=80);  -> MyItem13(id=81);  ->
MyItem13(id=82);  -> MyItem13(id=83);  -> MyItem13(id=84);  -> MyItem13(id=85);  -> MyItem13(id=86);  -> MyItem13(id=87);  -> MyItem13(id=88);  ->
MyItem13(id=89);  -> MyItem13(id=90);  -> MyItem13(id=91);  -> MyItem13(id=92);  -> MyItem13(id=93);  -> MyItem13(id=94);  -> MyItem13(id=95);  ->
MyItem13(id=96);   init 1000;  -> MyItem13(id=97);  -> MyItem13(id=98);  -> MyItem13(id=99);  -> MyItem13(id=100);    -> MyItem13(id=101);    ->
MyItem13(id=102);  -> MyItem13(id=103);    -> MyItem13(id=104);     -> MyItem13(id=105);    -> MyItem13(id=106);    -> MyItem13(id=107);    ->
MyItem13(id=108);  -> MyItem13(id=109);    -> MyItem13(id=110);     -> MyItem13(id=111);    -> MyItem13(id=112);    -> MyItem13(id=113);    ->
MyItem13(id=114);  -> MyItem13(id=115);    -> MyItem13(id=116);     -> MyItem13(id=117);    -> MyItem13(id=118);    -> MyItem13(id=119);    ->
MyItem13(id=120);  -> MyItem13(id=121);    -> MyItem13(id=122);     -> MyItem13(id=123);    -> MyItem13(id=124);    -> MyItem13(id=125);    ->
MyItem13(id=126);  -> MyItem13(id=127);    -> MyItem13(id=128);     -> MyItem13(id=1000);   |
```

```
Received MyItem4(id=957)
Received MyItem4(id=958)
Received MyItem4(id=959)
Received MyItem4(id=960)
MyItem Created 993
MyItem Created 994
MyItem Created 995
MyItem Created 996
MyItem Created 997
MyItem Created 998
MyItem Created 999
MyItem Created 1000
Received MyItem4(id=961)
Received MyItem4(id=962)
Received MyItem4(id=963)
Received MyItem4(id=964)
Received MyItem4(id=965)
Received MyItem4(id=966)
Received MyItem4(id=967)
Received MyItem4(id=968)
Received MyItem4(id=969)
Received MyItem4(id=970)
Received MyItem4(id=971)
Received MyItem4(id=972)
Received MyItem4(id=973)
Received MyItem4(id=974)
Received MyItem4(id=975)
Received MyItem4(id=976)
Received MyItem4(id=977)
Received MyItem4(id=978)
Received MyItem4(id=979)
Received MyItem4(id=980)
Received MyItem4(id=981)
Received MyItem4(id=982)
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
Subscription 1: String 1
Subscription 1 delay
Subscription 2 String 1
Subscription 1: String 2
Subscription 1 delay
Subscription 2 String 2
Subscription 1: String 3
Subscription 1 delay
Subscription 2 String 3
Subscription 1: String 4
Subscription 1 delay
Subscription 2 String 4
Subscription 1: String 5
Subscription 1 delay
Subscription 2 String 5

Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
[1, 2, 3, 4, 5, 6, 7, 8, 9, 10]
[11, 12, 13, 14, 15, 16, 17, 18, 19, 20]
[21, 22, 23, 24, 25, 26, 27, 28, 29, 30]
[31, 32, 33, 34, 35, 36, 37, 38, 39, 40]
[41, 42, 43, 44, 45, 46, 47, 48, 49, 50]
[51, 52, 53, 54, 55, 56, 57, 58, 59, 60]
[61, 62, 63, 64, 65, 66, 67, 68, 69, 70]
[71, 72, 73, 74, 75, 76, 77, 78, 79, 80]
[81, 82, 83, 84, 85, 86, 87, 88, 89, 90]
[91, 92, 93, 94, 95, 96, 97, 98, 99, 100]
[101, 102, 103, 104, 105, 106, 107, 108, 109, 110]
[111]

Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
Subscription 1 [1, 2, 3, 4, 5, 6, 7, 8, 9, 10]
Subscription 1 [16, 17, 18, 19, 20, 21, 22, 23, 24, 25]
Subscription 1 [31, 32, 33, 34, 35, 36, 37, 38, 39, 40]
Subscription 1 [46, 47, 48, 49, 50, 51, 52, 53, 54, 55]
Subscription 1 [61, 62, 63, 64, 65, 66, 67, 68, 69, 70]
Subscription 1 [76, 77, 78, 79, 80, 81, 82, 83, 84, 85]
Subscription 1 [91, 92, 93, 94, 95, 96, 97, 98, 99, 100]
Subscription 1 [106, 107, 108, 109, 110, 111]
Subscription 2 [1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15]
Subscription 2 [8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22]
Subscription 2 [15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29]
Subscription 2 [22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36]
Subscription 2 [29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43]
Subscription 2 [36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50]
Subscription 2 [43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57]
Subscription 2 [50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64]
Subscription 2 [57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71]
Subscription 2 [64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78]
Subscription 2 [71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85]
Subscription 2 [78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92]
Subscription 2 [85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99]
Subscription 2 [92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106]
Subscription 2 [99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111]
Subscription 2 [106, 107, 108, 109, 110, 111]

Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
[0, 1, 2, 3, 4, 5, 6, 7, 8, 9]
[10, 11, 12, 13, 14, 15, 16, 17, 18, 19]
[20, 21, 22, 23, 24, 25, 26, 27, 28, 29]
[30, 31, 32, 33, 34, 35, 36, 37, 38, 39]
[40, 41, 42, 43, 44, 45, 46, 47, 48, 49]

Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
[0, 1, 2]
[3, 4, 5]
[6, 7, 8, 9]
[10, 11, 12, 13]
[14, 15, 16]
[17, 18, 19]
[20, 21, 22, 23]
[24, 25, 26, 27]
[28, 29, 30]
[31, 32, 33, 34]
[35, 36, 37]
[38, 39, 40, 41]
[42, 43, 44]
[45, 46, 47, 48]

Process finished with exit code 0
```

```
1, 2, 3, 4, 5, 6, 7, 8, 9, 10,
11, 12, 13, 14, 15, 16, 17, 18, 19, 20,
21, 22, 23, 24, 25, 26, 27, 28, 29, 30,
31, 32, 33, 34, 35, 36, 37, 38, 39, 40,
41, 42, 43, 44, 45, 46, 47, 48, 49, 50,
51, 52, 53, 54, 55, 56, 57, 58, 59, 60,
61, 62, 63, 64, 65, 66, 67, 68, 69, 70,
71, 72, 73, 74, 75, 76, 77, 78, 79, 80,
81, 82, 83, 84, 85, 86, 87, 88, 89, 90,
91, 92, 93, 94, 95, 96, 97, 98, 99, 100,
101, 102, 103, 104, 105, 106, 107, 108, 109, 110,
111,
Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
0
3
5
7

Process finished with exit code 0
```

Chapter 5: Asynchronous Data Operators and Transformations

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
Reactive
Reactive Programming
Reactive Programming in Kotlin

Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
Received 1
Received 2
Received 3
Received 4
Received 5
Received 6
Received 7
Received 8
Received 9
Received 10

Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
Received 1
Received 2
Received 3
Received 4
Received 5
Received 6
Received 7
Received 8
Received 9
Received 3
Received 10

Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
Received 6

Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
Received 2
Received 4
Received 6
Received 8
Received 10
Received 12
Received 14
Received 16
Received 18
Received 20

Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
Received 1
Received 10
Received 2

Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
Completed

Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
Received Transforming Int to String 10
Received Transforming Int to String 9
Received Transforming Int to String 8
Received Transforming Int to String 7
Received Transforming Int to String 6
Received Transforming Int to String 5
Received Transforming Int to String 4
Received Transforming Int to String 3
Received Transforming Int to String 2
Received Transforming Int to String 1

Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
Received Transforming Int to String 10
Received Transforming Int to String 9
Received Transforming Int to String 8
Received Transforming Int to String 7
Received Transforming Int to String 6
Received Transforming Int to String 5
Received Transforming Int to String 4
Received Transforming Int to String 3
Received Transforming Int to String 2
Received Transforming Int to String 1

Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
Received The Number 10
Received number/2 5
Received number%2 0
Received The Number 9
Received number/2 4
Received number%2 1
Received The Number 8
Received number/2 4
Received number%2 0
Received The Number 7
Received number/2 3
Received number%2 1
Received The Number 6
Received number/2 3
Received number%2 0
Received The Number 5
Received number/2 2
Received number%2 1
Received The Number 4
Received number/2 2
Received number%2 0
Received The Number 3
Received number/2 1
Received number%2 1
Received The Number 2
Received number/2 1
Received number%2 0
Received The Number 1
Received number/2 0
Received number%2 1
Complete

Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
Received 15

Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
Received 11
Received 12
Received 13
Received 14
Received 15
Received 16
Received 17
Received 18
Received 19
Received 20

Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
Received -1
Received 0
Received 1
Received 2
Received 3
Received 4
Received 5
Received 6
Received 7
Received 8
Received 9
Received Programming Languages
Received C
Received C++
Received Java
Received Kotlin
Received Scala
Received Groovy

Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
default with integer
Received 1
Received 2
Received 3
Received 4
Received 5
Received 6
Received 7
Received 8
Received 9
Received 10
default with String
Received alpha
Received beta
Received gamma
Received theta
custom sortFunction with integer
Received 10
Received 9
Received 8
Received 7
Received 6
Received 5
Received 4
Received 3
Received 2
Received 1
custom sortFunction with custom class-object
Received MyItem1(item=1)
Received MyItem1(item=2)
Received MyItem1(item=3)
Received MyItem1(item=4)
Received MyItem1(item=5)
Received MyItem1(item=6)
Received MyItem1(item=7)
Received MyItem1(item=8)
Received MyItem1(item=9)
Received MyItem1(item=10)

Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
Received 1
Received 3
Received 6
Received 10
Received 15
Received 21
Received 28
Received 36
Received 45
Received 55
Received String 1
Received String 1 String 2
Received String 1 String 2 String 3
Received String 1 String 2 String 3 String 4
Received 1
Received 12
Received 123
Received 1234
Received 12345

Process finished with exit code 0
```
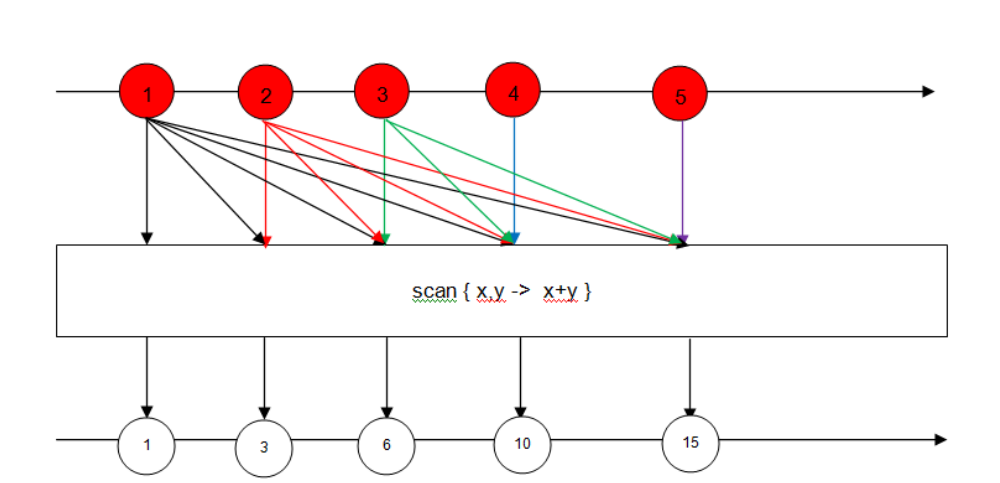
```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
count 11


Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
accumulation 55
accumulation 12345


Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
Next 1
Next 2
Next 3
Next 5
Next 6
Next 7
Error java.lang.NumberFormatException: For input string: "Errr"


Process finished with exit code 0
```

Chapter 6: More on Operators and Error Handling

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
startWith Iterator
Received 1
Received 2
Received 3
Received 4
Received 5
Received 6
Received 7
Received 8
Received 9
Received 10
Received 11
Received 12
Received 13
Received 14
startWith another source Producer
Received 1
Received 2
Received 3
Received 4
Received 5
Received 6
Received 7
Received 8
Received 9
Received 10
Received 11
Received 12
Received 13
Received 14

Process finished with exit code 0
```
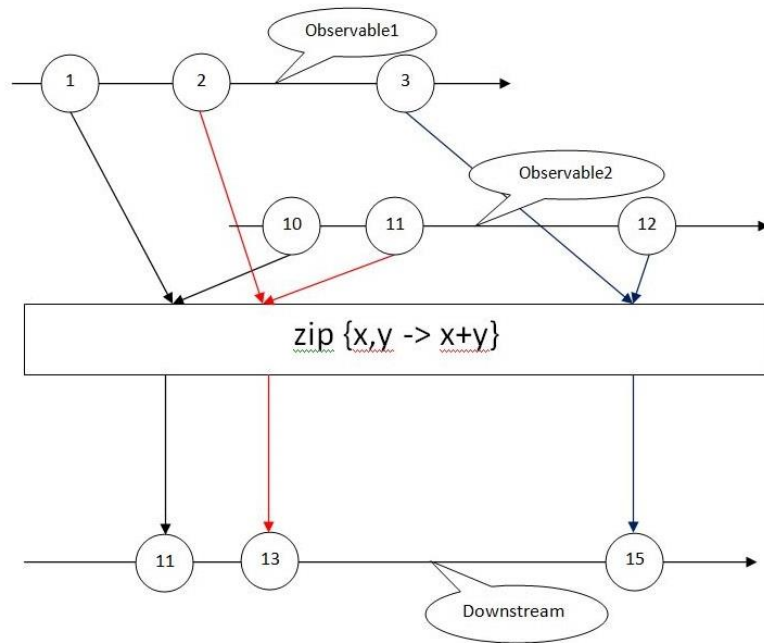
```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
Received String 1 1
Received String 2 2
Received String 3 3
Received String 4 4
Received String 5 5
Received String 6 6
Received String 7 7
Received String 8 8
Received String 9 9
Received String 10 10

Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
Received t1: 0, t2: 0
Received t1: 1, t2: 1
Received t1: 2, t2: 2
Received t1: 3, t2: 3

Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
Received t1: 1, t2: 0
Received t1: 2, t2: 0
Received t1: 3, t2: 0
Received t1: 3, t2: 1
Received t1: 4, t2: 1
Received t1: 5, t2: 1
Received t1: 6, t2: 1
Received t1: 6, t2: 2
Received t1: 7, t2: 2
Received t1: 8, t2: 2
Received t1: 9, t2: 2
Received t1: 9, t2: 3
Received t1: 10, t2: 3
Received t1: 11, t2: 3

Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
Received Kotlin
Received Scala
Received Groovy
Received Python
Received Java
Received C++
Received C

Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
Received Observable 2 0
Received Observable 2 1
Received Observable 2 2
Received Observable 2 3
Received Observable 1 0
Received Observable 2 4
Received Observable 2 5
Received Observable 2 6
Received Observable 2 7
Received Observable 2 8
Received Observable 2 9
Received Observable 1 1
Received Observable 2 10
Received Observable 2 11
Received Observable 2 12
Received Observable 2 13
Received Observable 2 14
Received Observable 1 2

Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
Received A
Received B
Received C
Received D
Received E
Received F
Received G
Received I
Received J
Received K
Received L
Received M
Received N
Received O
Received P
Received Q
Received R
Received S
Received T
Received U
Received V
Received W
Received X
Received Y
Received Z

Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
Received Kotlin
Received Scala
Received Groovy
Received Python
Received Java
Received C++
Received C

Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
Received Observable 1 0
Received Observable 1 1
Received Observable 2 0
Received Observable 2 1
Received Observable 2 2
Received Observable 2 3
Received Observable 2 4

Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
Received Observable 2 0
Received Observable 2 1
Received Observable 2 2
Received Observable 2 3
Received Observable 2 4
Received Observable 2 5
Received Observable 2 6
Received Observable 2 7
Received Observable 2 8
Received Observable 2 9
Received Observable 2 10
Received Observable 2 11
Received Observable 2 12
Received Observable 2 13
Received Observable 2 14
Received Observable 2 15

Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
Key 1
Received 1
Received 6
Received 11
Received 16
Received 21
Received 26
Key 2
Received 2
Received 7
Received 12
Received 17
Received 22
Received 27
Key 3
Received 3
Received 8
Received 13
Received 18
Received 23
Received 28
Key 4
Received 4
Received 9
Received 14
Received 19
Received 24
Received 29
Key 0
Received 5
Received 10
Received 15
Received 20
Received 25
Received 30

Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
Received 2
Received 5
Received 6
Received 1
Received 4
Received 10
Received 9
Received 8
Received 3
Received 7

Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
Received 1
Received 2
Received 3
Received 4
Received 5
Received 6
Received 7
Received 8
Received 9
Received 10

Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
Without delay
Received 1
Received 2
Received 3
Received 4
Received 5
Received 6
Received 7
Received 8
Received 9
Received 10
With delay
Received 10

Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
Received 3
Received 6
Received 9
Received 10

Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
starting skip(count)
Received 6
Received 7
Received 8
Received 9
Received 10
Received 11
Received 12
Received 13
Received 14
Received 15
Received 16
Received 17
Received 18
Received 19
Received 20
Complete
starting skip(time)
Received 4
Received 5
Received 6
Received 7
Received 8
Received 9

Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
starting skipLast(count)
Received 1
Received 2
Received 3
Received 4
Received 5
Received 6
Received 7
Received 8
Received 9
Received 10
Received 11
Received 12
Received 13
Received 14
Received 15
Complete

Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
starting skipWhile
Received 10
Received 11
Received 12
Received 13
Received 14
Received 15
Received 16
Received 17
Received 18
Received 19
Received 20
Complete

Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
starting skipUntil
Received 5
Received 6
Received 7
Received 8
Received 9
Received 10
Received 11
Received 12
Received 13
Received 14

Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
starting skip(count)
Received 1
Received 2
Received 3
Received 4
Received 5
Complete
starting skip(time)
Received 0
Received 1
Received 2
Received 3
Complete

Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
starting skipLast(count)
Received 16
Received 17
Received 18
Received 19
Received 20
Complete

Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
starting skipWhile
Received 1
Received 2
Received 3
Received 4
Received 5
Received 6
Received 7
Received 8
Received 9
Complete

Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
Received 0
io.reactivex.exceptions.OnErrorNotImplementedException: / by zero
Received 2
    at io.reactivex.internal.functions.Functions$OnErrorMissingConsumer.accept(Functions.java:704)
    at io.reactivex.internal.functions.Functions$OnErrorMissingConsumer.accept(Functions.java:701)
    at io.reactivex.internal.observers.LambdaObserver.onError(LambdaObserver.java:74)
    at io.reactivex.internal.observers.BasicFuseableObserver.onError(BasicFuseableObserver.java:100)
    at io.reactivex.internal.observers.BasicFuseableObserver.fail(BasicFuseableObserver.java:110)
    at io.reactivex.internal.operators.observable.ObservableMap$MapObserver.onNext(ObservableMap.java:61)
    at io.reactivex.internal.operators.observable.ObservableFromArray$FromArrayDisposable.run(ObservableFromArray.java:107)
    at io.reactivex.internal.operators.observable.ObservableFromArray.subscribeActual(ObservableFromArray.java:36)
    at io.reactivex.Observable.subscribe(Observable.java:10842)
    at io.reactivex.internal.operators.observable.ObservableMap.subscribeActual(ObservableMap.java:33)
    at io.reactivex.Observable.subscribe(Observable.java:10842)
    at io.reactivex.Observable.subscribe(Observable.java:10828)
    at io.reactivex.Observable.subscribe(Observable.java:10731)
    at com.rivuchk.packtpub.reactivekotlin.chapter6.Chapter6_17Kt.main(chapter6_17.kt:8)
Caused by: java.lang.ArithmeticException: / by zero
    at com.rivuchk.packtpub.reactivekotlin.chapter6.Chapter6_17Kt$main$1.apply(chapter6_17.kt:7)
    at com.rivuchk.packtpub.reactivekotlin.chapter6.Chapter6_17Kt$main$1.apply(chapter6_17.kt)
    at io.reactivex.internal.operators.observable.ObservableMap$MapObserver.onNext(ObservableMap.java:59)
    ... 8 more
Exception in thread "main" io.reactivex.exceptions.OnErrorNotImplementedException: / by zero
```

```
rivuchk.packtpub.reactivekotlin.chapter6.Chapter6_17kt
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
Received 0
Received 2
Received -1


Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
Received 0
Received 2
Received 10
Received 11
Received 12
Received 13
Received 14


Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
Received 0
Received 2
Received 0
Received 2
Received 0
Received 2
Received 0
Received 2
Error

 With Predicate

Received 0
Received 2
Received 0
Received 2
Received 0
Received 2
Error

Process finished with exit code 0
```

```json
    "items": [
        {
            "id": "http://rivuchk.com/community-gdg-kolkata-kotlinkolkata/gdg-kolkata/gdg-kolkata-august-kotlin-meetup-slide/",
            "url": "http://rivuchk.com/community-gdg-kolkata-kotlinkolkata/gdg-kolkata/gdg-kolkata-august-kotlin-meetup-slide/",
            "title": "GDG-Kolkata August &#8211; Kotlin Meetup Slide",
            "date_published": "2017-08-19T00:00:06+00:00",
            "date_modified": "2017-08-19T05:18:13+00:00",
            "author": {
                "name": "Rivu Chakraborty"
            }
        },
        {
            "id": "http://rivuchk.com/community-gdg-kolkata-kotlinkolkata/google-solve-india-kolkata-notes/",
            "url": "http://rivuchk.com/community-gdg-kolkata-kotlinkolkata/google-solve-india-kolkata-notes/",
            "title": "Google Solve For India &#8211; Kolkata Notes",
            "date_published": "2017-06-04T07:20:14+00:00",
            "date_modified": "2017-06-04T11:38:42+00:00",
            "author": {
                "name": "Rivu Chakraborty"
            }
        },
        {
            "id": "http://rivuchk.com/development/android-runtime-permission-manager/",
            "url": "http://rivuchk.com/development/android-runtime-permission-manager/",
            "title": "Android Runtime Permission Manager",
            "date_published": "2017-04-23T06:19:25+00:00",
            "date_modified": "2017-06-04T11:32:59+00:00",
            "author": {
                "name": "Rivu Chakraborty"
            }
        },
        {
            "id": "http://rivuchk.com/rivu-chakraborty/articles-and-tutorials/",
            "url": "http://rivuchk.com/rivu-chakraborty/articles-and-tutorials/",
            "title": "Articles and Tutorials",
            "date_published": "2016-12-18T18:49:46+00:00",
            "date_modified": "2017-05-20T15:41:06+00:00",
            "author": {
                "name": "Rivu Chakraborty"
            }
        }
    ]
```

Process finished with exit code 0

Chapter 7: Concurrency and Parallel Processing in RxKotlin with Schedulers

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
Observable1 Item Received 1
Observable1 Item Received 2
Observable1 Item Received 3
Observable1 Item Received 4
Observable1 Item Received 5
Observable1 Item Received 6
Observable1 Item Received 7
Observable1 Item Received 8
Observable1 Item Received 9
Observable1 Item Received 10
Observable2 Item Received 21
Observable2 Item Received 22
Observable2 Item Received 23
Observable2 Item Received 24
Observable2 Item Received 25
Observable2 Item Received 26
Observable2 Item Received 27
Observable2 Item Received 28
Observable2 Item Received 29
Observable2 Item Received 30

Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
Observable2 Item Received 21
Observable1 Item Received 1
Observable2 Item Received 22
Observable2 Item Received 23
Observable1 Item Received 2
Observable2 Item Received 24
Observable2 Item Received 25
Observable1 Item Received 3
Observable2 Item Received 26
Observable2 Item Received 27
Observable1 Item Received 4
Observable2 Item Received 28
Observable2 Item Received 29
Observable1 Item Received 5
Observable2 Item Received 30
Observable1 Item Received 6
Observable1 Item Received 7
Observable1 Item Received 8
Observable1 Item Received 9
Observable1 Item Received 10

Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
Blocking Thread 1
Observable1 Item Received 1
Blocking Thread 2
Blocking Thread 3
Observable1 Item Received 2
Blocking Thread 4
Blocking Thread 5
Observable1 Item Received 3
Blocking Thread 6
Blocking Thread 7
Observable1 Item Received 4
Blocking Thread 8
Observable1 Item Received 5
Blocking Thread 9
Blocking Thread 10
Observable1 Item Received 6
Observable1 Item Received 7
Observable1 Item Received 8
Observable1 Item Received 9
Observable1 Item Received 10
Observable2 Item Received 21
Observable2 Item Received 22
Observable2 Item Received 23
Observable2 Item Received 24
Observable2 Item Received 25
Observable2 Item Received 26
Observable2 Item Received 27
Observable2 Item Received 28
Observable2 Item Received 29
Observable2 Item Received 30

Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
Observable1 Item Received 1
Observable1 Item Received 2
Observable1 Item Received 3
Observable1 Item Received 4
Observable1 Item Received 5
Observable1 Item Received 6
Observable1 Item Received 7
Observable1 Item Received 8
Observable1 Item Received 9
Observable1 Item Received 10
Observable2 Item Received 21
Observable2 Item Received 22
Observable2 Item Received 23
Observable2 Item Received 24
Observable2 Item Received 25
Observable2 Item Received 26
Observable2 Item Received 27
Observable2 Item Received 28
Observable2 Item Received 29
Observable2 Item Received 30
Blocking Thread 1
Blocking Thread 2
Blocking Thread 3
Blocking Thread 4
Blocking Thread 5
Blocking Thread 6
Blocking Thread 7
Blocking Thread 8
Blocking Thread 9
Blocking Thread 10

Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
Observable2 Item Received 21 - pool-1-thread-2
Observable1 Item Received 1 - pool-1-thread-1
Observable2 Item Received 22 - pool-1-thread-2
Observable2 Item Received 23 - pool-1-thread-2
Observable1 Item Received 2 - pool-1-thread-1
Observable2 Item Received 24 - pool-1-thread-2
Observable2 Item Received 25 - pool-1-thread-2
Observable1 Item Received 3 - pool-1-thread-1
Observable2 Item Received 26 - pool-1-thread-2
Observable2 Item Received 27 - pool-1-thread-2
Observable1 Item Received 4 - pool-1-thread-1
Observable2 Item Received 28 - pool-1-thread-2
Observable2 Item Received 29 - pool-1-thread-2
Observable1 Item Received 5 - pool-1-thread-1
Observable2 Item Received 30 - pool-1-thread-2
Observable3 Item Received 51 - pool-1-thread-2
Observable1 Item Received 6 - pool-1-thread-1
Observable3 Item Received 52 - pool-1-thread-2
Observable3 Item Received 53 - pool-1-thread-2
Observable1 Item Received 7 - pool-1-thread-1
Observable3 Item Received 54 - pool-1-thread-2
Observable3 Item Received 55 - pool-1-thread-2
Observable1 Item Received 8 - pool-1-thread-1
Observable3 Item Received 56 - pool-1-thread-2
Observable1 Item Received 9 - pool-1-thread-1
Observable3 Item Received 57 - pool-1-thread-2
Observable3 Item Received 58 - pool-1-thread-2
Observable1 Item Received 10 - pool-1-thread-1
Observable3 Item Received 59 - pool-1-thread-2
Observable3 Item Received 60 - pool-1-thread-2

Process finished with exit code 1
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
Mapping 1 - main
Received 1 - main
Mapping 2 - main
Received 2 - main
Mapping 3 - main
Received 3 - main
Mapping 4 - main
Received 4 - main
Mapping 5 - main
Received 5 - main
Mapping 6 - main
Received 6 - main
Mapping 7 - main
Received 7 - main
Mapping 8 - main
Received 8 - main
Mapping 9 - main
Received 9 - main
Mapping 10 - main
Received 10 - main

Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
Mapping 1 - RxComputationThreadPool-1
Received 1 - RxComputationThreadPool-1
Mapping 2 - RxComputationThreadPool-1
Received 2 - RxComputationThreadPool-1
Mapping 3 - RxComputationThreadPool-1
Received 3 - RxComputationThreadPool-1
Mapping 4 - RxComputationThreadPool-1
Received 4 - RxComputationThreadPool-1
Mapping 5 - RxComputationThreadPool-1
Received 5 - RxComputationThreadPool-1
Mapping 6 - RxComputationThreadPool-1
Received 6 - RxComputationThreadPool-1
Mapping 7 - RxComputationThreadPool-1
Received 7 - RxComputationThreadPool-1
Mapping 8 - RxComputationThreadPool-1
Received 8 - RxComputationThreadPool-1
Mapping 9 - RxComputationThreadPool-1
Received 9 - RxComputationThreadPool-1
Mapping 10 - RxComputationThreadPool-1
Received 10 - RxComputationThreadPool-1

Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
Mapping 1 - RxComputationThreadPool-1
Mapping 2 - RxComputationThreadPool-1
Mapping 3 - RxComputationThreadPool-1
Mapping 4 - RxComputationThreadPool-1
Mapping 5 - RxComputationThreadPool-1
Mapping 6 - RxComputationThreadPool-1
Mapping 7 - RxComputationThreadPool-1
Mapping 8 - RxComputationThreadPool-1
Mapping 9 - RxComputationThreadPool-1
Mapping 10 - RxComputationThreadPool-1
Received 1 - RxCachedThreadScheduler-1
Received 2 - RxCachedThreadScheduler-1
Received 3 - RxCachedThreadScheduler-1
Received 4 - RxCachedThreadScheduler-1
Received 5 - RxCachedThreadScheduler-1
Received 6 - RxCachedThreadScheduler-1
Received 7 - RxCachedThreadScheduler-1
Received 8 - RxCachedThreadScheduler-1
Received 9 - RxCachedThreadScheduler-1
Received 10 - RxCachedThreadScheduler-1

Process finished with exit code 0
```
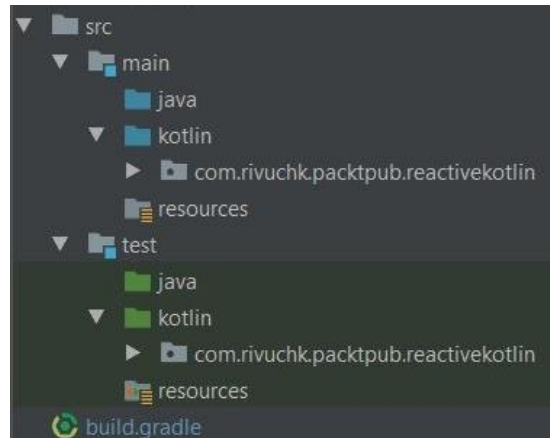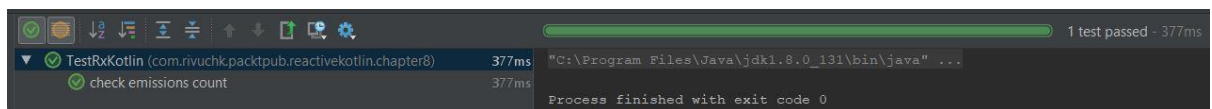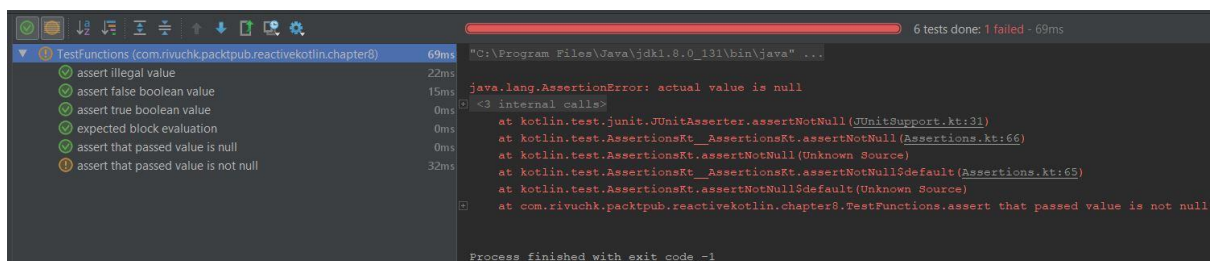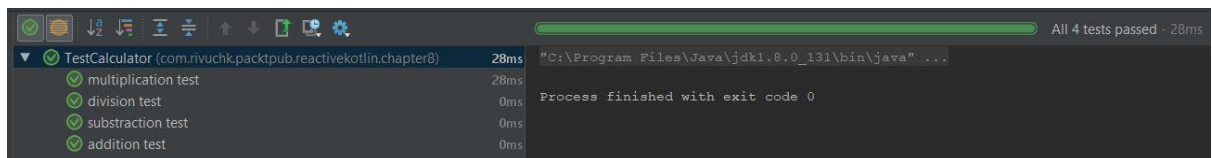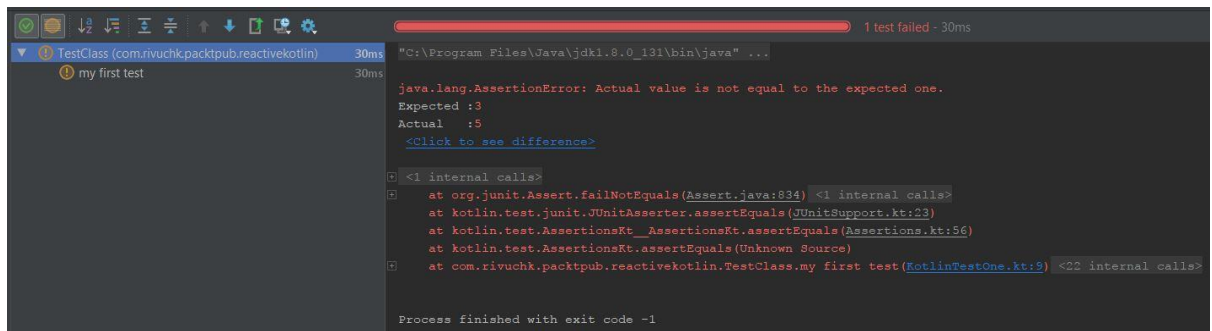
```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
Mapping 1 - RxComputationThreadPool-1
Mapping 2 - RxComputationThreadPool-1
Mapping 3 - RxComputationThreadPool-1
Mapping 4 - RxComputationThreadPool-1
Mapping 5 - RxComputationThreadPool-1
Mapping 6 - RxComputationThreadPool-1
Mapping 7 - RxComputationThreadPool-1
Mapping 8 - RxComputationThreadPool-1
Mapping 9 - RxComputationThreadPool-1
Mapping 10 - RxComputationThreadPool-1
Received 1 - RxCachedThreadScheduler-1
Received 2 - RxCachedThreadScheduler-1
Received 3 - RxCachedThreadScheduler-1
Received 4 - RxCachedThreadScheduler-1
Received 5 - RxCachedThreadScheduler-1
Received 6 - RxCachedThreadScheduler-1
Received 7 - RxCachedThreadScheduler-1
Received 8 - RxCachedThreadScheduler-1
Received 9 - RxCachedThreadScheduler-1
Received 10 - RxCachedThreadScheduler-1

Process finished with exit code 0
```
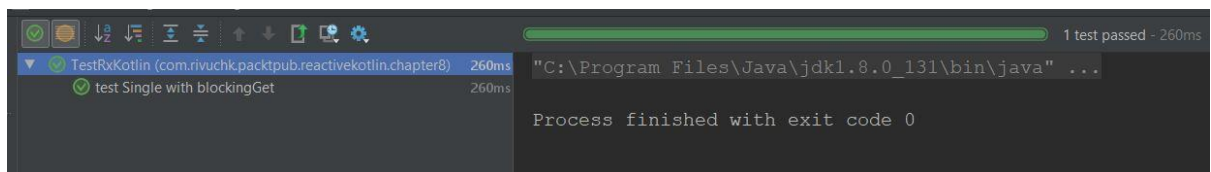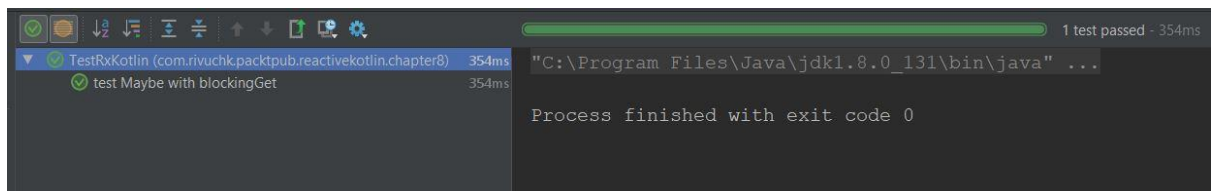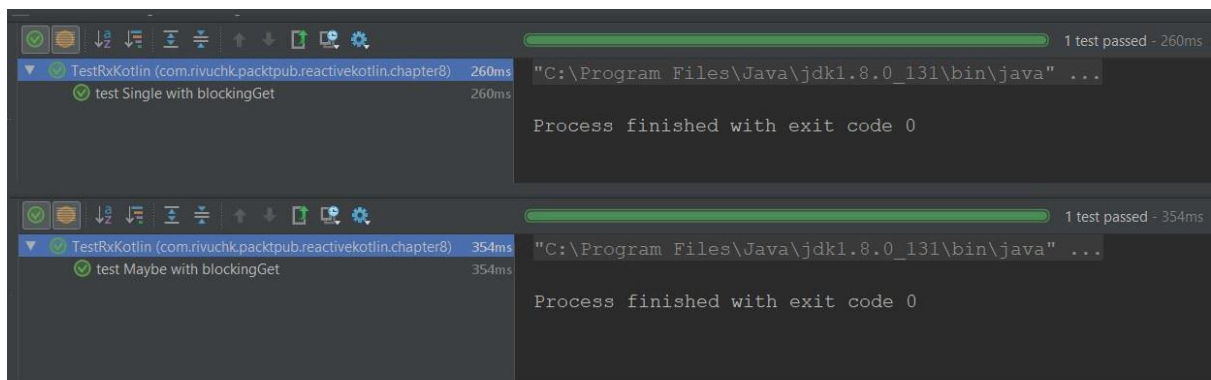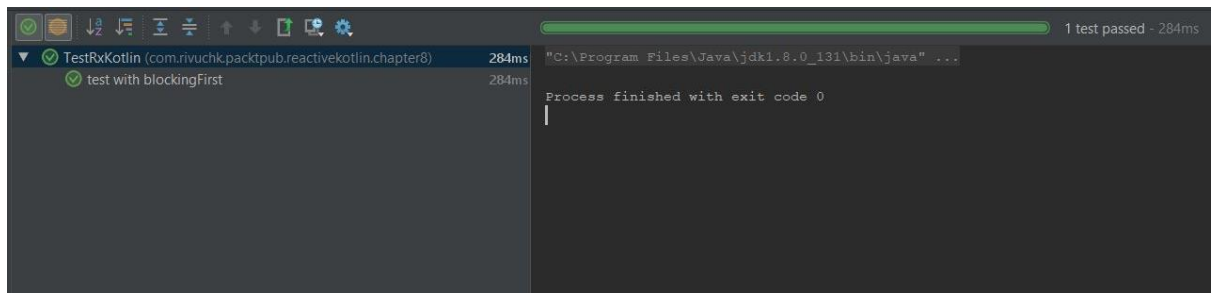
Chapter 8: Testing RxKotlin Applications

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...

java.lang.AssertionError: Actual value is not equal to the expected one.
Expected :3
Actual   :5
<Click to see difference>

<1 internal calls>
    at org.junit.Assert.failNotEquals(Assert.java:834) <1 internal calls>
    at kotlin.test.junit.JUnitAsserter.assertEquals(JUnitSupport.kt:23)
    at kotlin.test.AssertionsKt__AssertionsKt.assertEquals(Assertions.kt:56)
    at kotlin.test.AssertionsKt.assertEquals(Unknown Source)
    at com.rivuchk.packtpub.reactivekotlin.TestClass.my first test(KotlinTestOne.kt:9) <22 internal calls>


Process finished with exit code -1
```



```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...

Process finished with exit code 0
```



```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...

java.lang.AssertionError: actual value is null
<3 internal calls>
    at kotlin.test.junit.JUnitAsserter.assertNotNull(JUnitSupport.kt:31)
    at kotlin.test.AssertionsKt__AssertionsKt.assertNotNull(Assertions.kt:66)
    at kotlin.test.AssertionsKt.assertNotNull(Unknown Source)
    at kotlin.test.AssertionsKt__AssertionsKt.assertNotNull$default(Assertions.kt:65)
    at kotlin.test.AssertionsKt.assertNotNull$default(Unknown Source)
    at com.rivuchk.packtpub.reactivekotlin.chapter8.TestFunctions.assert that passed value is not null

Process finished with exit code -1
```



```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...

Process finished with exit code 0
```

```
TestRxKotlin (com.rivuchk.packtpub.reactivekotlin.chapter8)    284ms
    test with blockingFirst                                     284ms
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...

Process finished with exit code 0
```

1 test passed - 284ms


```
TestRxKotlin (com.rivuchk.packtpub.reactivekotlin.chapter8)    260ms
    test Single with blockingGet                                260ms
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...

Process finished with exit code 0
```

1 test passed - 260ms


```
TestRxKotlin (com.rivuchk.packtpub.reactivekotlin.chapter8)    354ms
    test Maybe with blockingGet                                 354ms
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...

Process finished with exit code 0
```

1 test passed - 354ms


```
TestRxKotlin (com.rivuchk.packtpub.reactivekotlin.chapter8)    354ms
    test Maybe with blockingGet                                 354ms
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...

Process finished with exit code 0
```

1 test passed - 354ms


```
TestRxKotlin (com.rivuchk.packtpub.reactivekotlin.chapter8)    260ms
    test Single with blockingGet                                260ms
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...

Process finished with exit code 0
```

1 test passed - 260ms

Chapter 9: Resource Management and Extending RxKotlin


```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
Resource Created
Resource Data Hello World
Resource Closed

Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
Next (1, 10)
Next (2, 11)
Next (3, 12)
Next (4, 13)
Next (5, 14)
Next (6, 15)
Next (7, 16)
Next (8, 17)
Next (9, 18)
Next (10, 19)
Next (11, 20)
Next (12, 21)
Next (13, 22)
Next (14, 23)
Next (15, 24)
Next (16, 25)
Next (17, 26)
Next (18, 27)
Next (19, 28)
Next (20, 29)
Completed

Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
Next (1, Reactive)
Next (2, Programming)
Next (3, in)
Next (4, Kotlin)
Next (5, by Rivu Chakraborty)
Next (6, Packt)
Completed

Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
map - RxComputationThreadPool-1 1
map - RxComputationThreadPool-1 2
map - RxComputationThreadPool-1 3
map - RxComputationThreadPool-1 4
map - RxComputationThreadPool-1 5
map - RxComputationThreadPool-1 6
map - RxComputationThreadPool-1 7
map - RxComputationThreadPool-1 8
map - RxComputationThreadPool-1 9
map - RxComputationThreadPool-1 10
onNext - RxCachedThreadScheduler-1 1
onNext - RxCachedThreadScheduler-1 2
onNext - RxCachedThreadScheduler-1 3
onNext - RxCachedThreadScheduler-1 4
onNext - RxCachedThreadScheduler-1 5
onNext - RxCachedThreadScheduler-1 6
onNext - RxCachedThreadScheduler-1 7
onNext - RxCachedThreadScheduler-1 8
onNext - RxCachedThreadScheduler-1 9
onNext - RxCachedThreadScheduler-1 10

Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
 [1, 2, 3, 4, 5, 6, 7, 8, 9, 10]

 Process finished with exit code 0
```

Chapter 10: Introduction to Web Programming with Spring for Kotlin Developers

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
Executing Random Task

Process finished with exit code 0
```
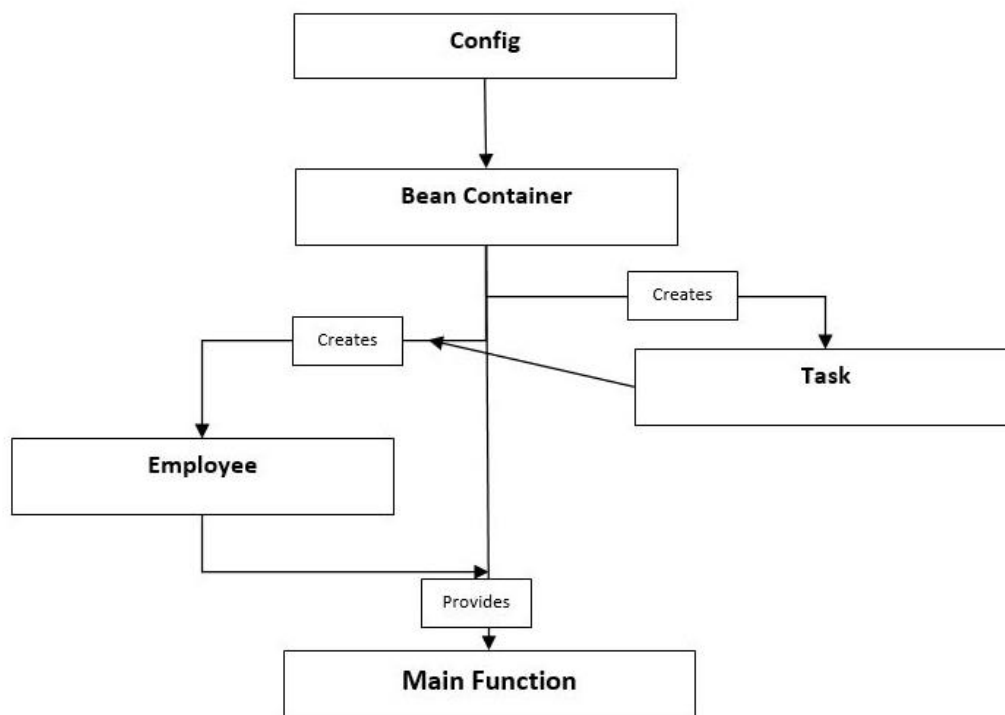
```
"C:\Program Files\Java\jdk1.8.0_131
Nov 19, 2017 11:19:49 PM org.spring
INFO: Refreshing org.springframewor
Nov 19, 2017 11:19:49 PM org.spring
INFO: Loading XML bean definitions
Nov 19, 2017 11:19:50 PM org.spring
INFO: Closing org.springframework.c
Writing Programms

Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\I
Nov 20, 2017 6:06:40 AM org.springfra
INFO: Refreshing org.springframework.
Performing Assignment One
Performing Assignment Two
Performing Assignment Three
Nov 20, 2017 6:06:42 AM org.springfra
INFO: Closing org.springframework.coi

Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk1.8.0_131\bin\java" ...
Nov 21, 2017 7:57:05 AM org.springframework.contex
INFO: Refreshing org.springframework.context.suppo
Nov 21, 2017 7:57:05 AM org.springframework.beans.
INFO: Loading XML bean definitions from class path
Nov 21, 2017 7:57:07 AM org.springframework.aop.fr
INFO: Final method [public final com.rivuchk.react
Performing Assignment One
This assignment is evaluated and given 5 points
Performing Assignment Two
This assignment is evaluated and given 0 points
Performing Assignment Three
This assignment is evaluated and given 9 points
Nov 21, 2017 7:57:08 AM org.springframework.contex
INFO: Closing org.springframework.context.support.

Process finished with exit code 0
```

New Project

Java
Java Enterprise
JBoss
J2ME
Clouds
Spring
Java FX
Android
IntelliJ Platform Plugin

Spring Initializr

Maven
Gradle (Kotlin DSL)
Gradle

Groovy
Griffon
Grails
Application Forge

Static Web
Flash

Kotlin

Empty Project

Project SDK: 1.8 (java version "1.8.0_131") | New...

Choose Initializr Service URL.

⦿ Default: https://start.spring.io

◯ Custom: [   ]

Make sure your network connection is active before continuing.

Previous | Next | Cancel | Help

New Project ✕

Project Metadata

Group: com.example

Artifact: demo

Type: Gradle Config (Generate a Gradle build file) ⌄

Language: Kotlin ⌄

Packaging: Jar ⌄

Java Version: 1.8 ⌄

Version: 0.0.1-SNAPSHOT

Name: demo

Description: Demo project for Spring Boot

Package: com.example.demo

Previous   Next   Cancel   Help

New Project   ✕

Dependencies   🔍 [   ]   Spring Boot [2.0.0 M6 ⌄]   **Selected Dependencies**

Core	☐ Security	**Core**
Web	☑ Aspects	Aspects ✕
Template Engines	☐ Atomikos (JTA)	
SQL	☐ Bitronix (JTA)	
NoSQL	☐ Narayana (JTA)	
Cloud Core	☐ Cache	
Cloud Config	☐ DevTools	
Cloud Discovery	☐ Configuration Processor	
Cloud Routing	☐ Validation	
Cloud Circuit Breaker	☐ Session	
Cloud Tracing	☐ Retry	
Cloud Messaging	☐ Lombok	
Cloud AWS		
Cloud Contract		
Pivotal Cloud Foundry		
Azure		
Social		
I/O		
Ops		

Aspects

Create your own Aspects using Spring AOP and AspectJ

[Previous]   [**Next**]   [Cancel]   [Help]

{"id":1,"todoDescription":"TODO Project","todoTargetDate":"31/11/2017","status":"Running"}

Chapter 11: REST API with Spring JPA and Hibernate
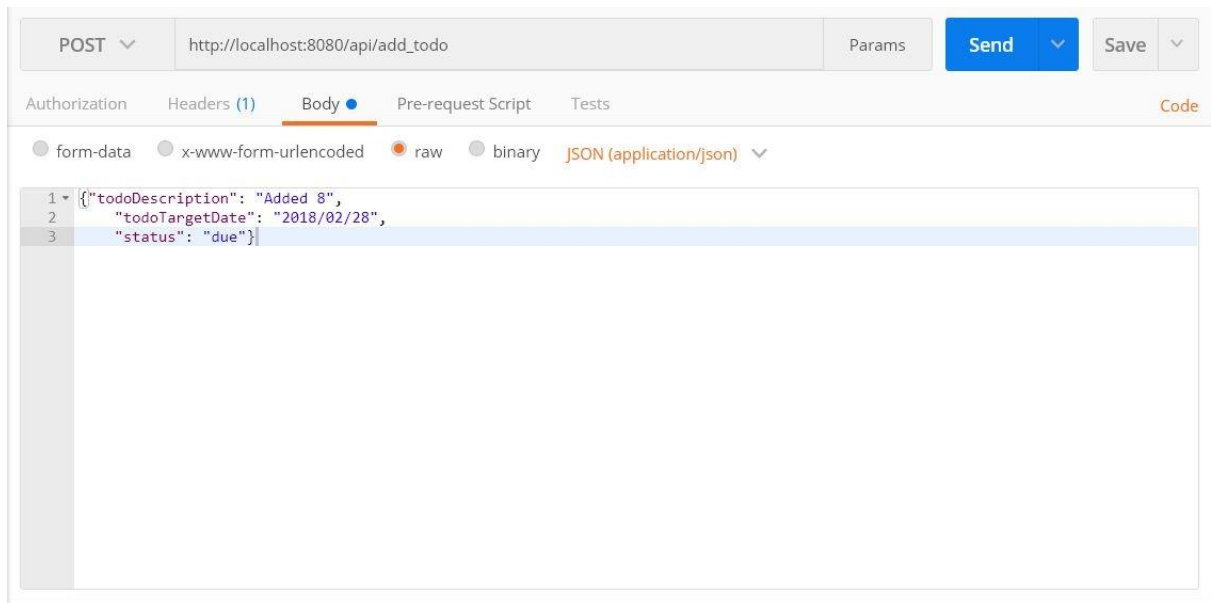
```
[DEBUG] (main) Using Console logging
[ INFO] (main) onSubscribe([Fuseable] Operators.EmptySubscription)
[ INFO] (main) request(unbounded)
[ INFO] (main) onComplete()
[ INFO] (main) onSubscribe([Fuseable] Operators.EmptySubscription)
[ INFO] (main) request(unbounded)
[ INFO] (main) onComplete()
[ INFO] (main) | onSubscribe([Synchronous Fuseable] Operators.ScalarSubscription)
[ INFO] (main) | request(unbounded)
[ INFO] (main) | onNext(A String)
Got A String
[ INFO] (main) | onComplete()
[ INFO] (main) | onSubscribe([Synchronous Fuseable] Operators.ScalarSubscription)
[ INFO] (main) | request(unbounded)
[ INFO] (main) | onNext(Another String)
Got Another String
[ INFO] (main) | onComplete()

Process finished with exit code 0
```
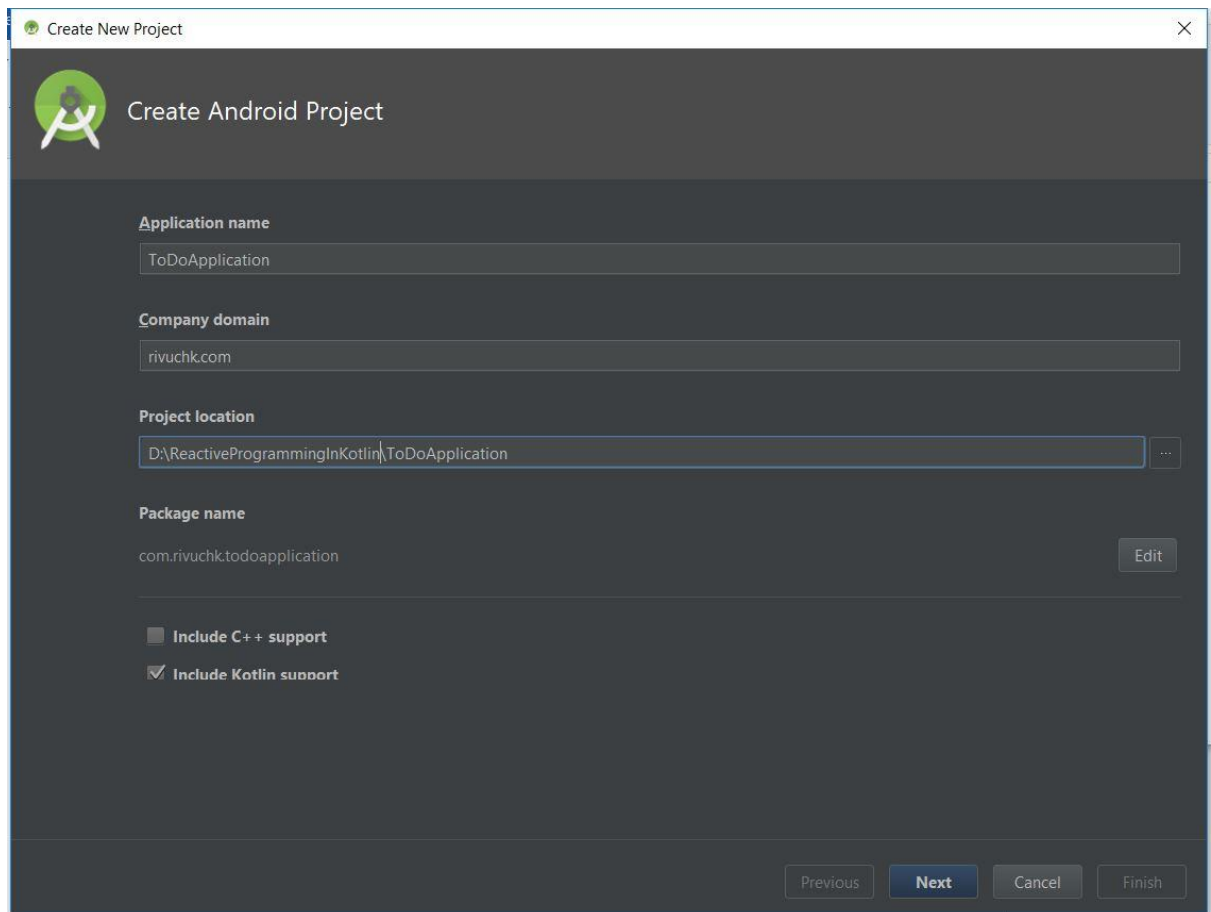
Chapter 12: Reactive Kotlin and Android
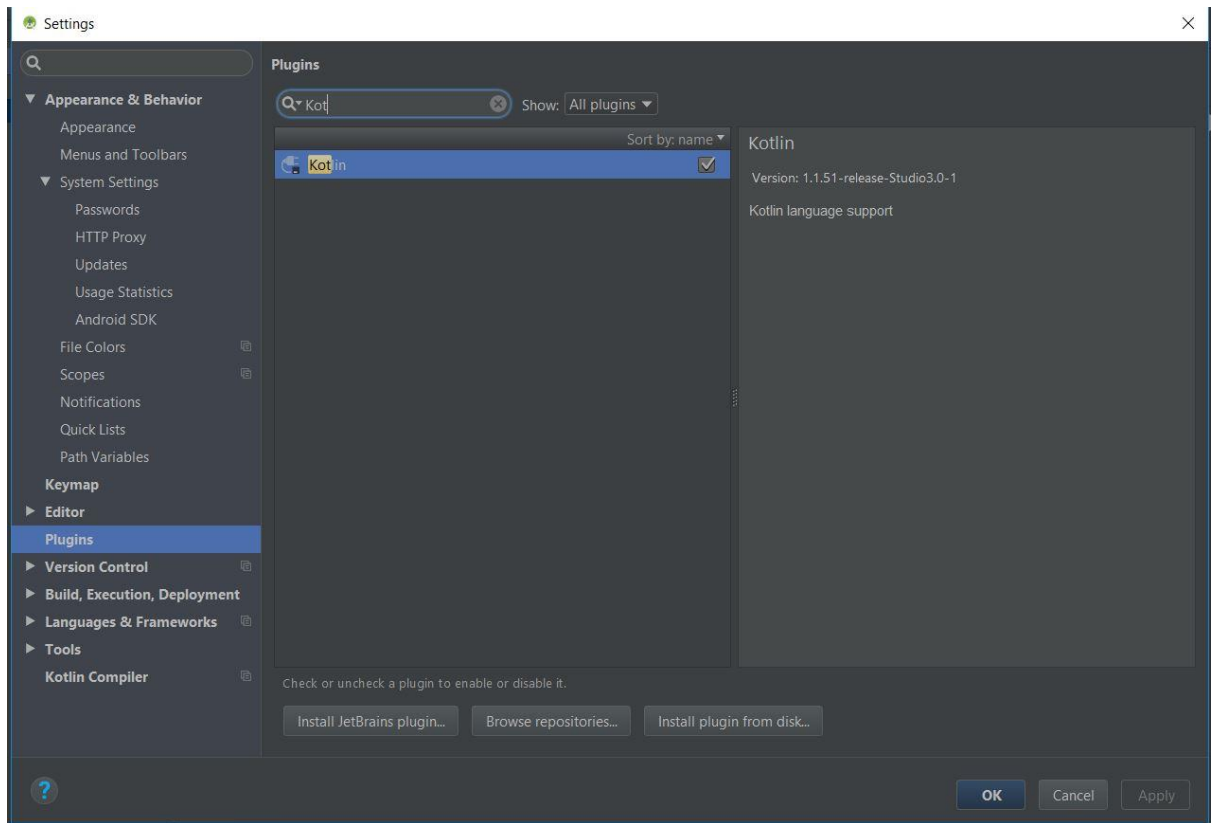
```
buildscript {
    ext.kotlin_version = '1.1.51'
    repositories {
        jcenter()
    }

    dependencies {
        classpath 'com.android.tools.build:gradle:3.0.0'
        classpath "org.jetbrains.kotlin:kotlin-gradle-plugin:$kotlin_version"

        // NOTE: Do not place your application dependencies here; they belong
        // in the individual module build.gradle files
    }
}
```

▼ ▣ **app**
  ▶ ▣ manifests
  ▼ ▣ java
    ▼ ▣ com.rivuchk.todoapplication
      ▼ ▣ addtodo
        ▣ AddTodoActivity
      ▼ ▣ apis
        ▶ ▣ apiresponse
        ▣ APIClient
        ▣ APIService
      ▼ ▣ datamodels
        ▣ ToDoModel
      ▼ ▣ tododetails
        ▣ TodoDetailsActivity
      ▼ ▣ todolist
        ▣ ToDoAdapter
        ▣ TodoListActivity
      ▼ ▣ utils
        ▣ CommonFunctions.kt
        ▣ Constants
      ▣ BaseActivity
      ▣ ToDoApp
    ▶ ▣ com.rivuchk.todoapplication (androidTest)
    ▶ ▣ com.rivuchk.todoapplication (test)

1

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Integer tincidunt quis lorem id rhoncus. Sed tristique arcu non sapien consequat commodo. Nulla dolo...

complete

2017/11/18

2

tausif kotogula disgust dg phiriye seaters konomote drawers bohongin drawers fuhunk vicinity drawers hobigonj bohiche starters hobigonj ko pokoknya ...

checking

2017/11/30

3

Nunc justo ex, aliquam id euismod ac, scelerisque non enim. Proin no imperdiet augue, vel rhoncus dolor. Pellentesque in ex iaculis, iaculis massa