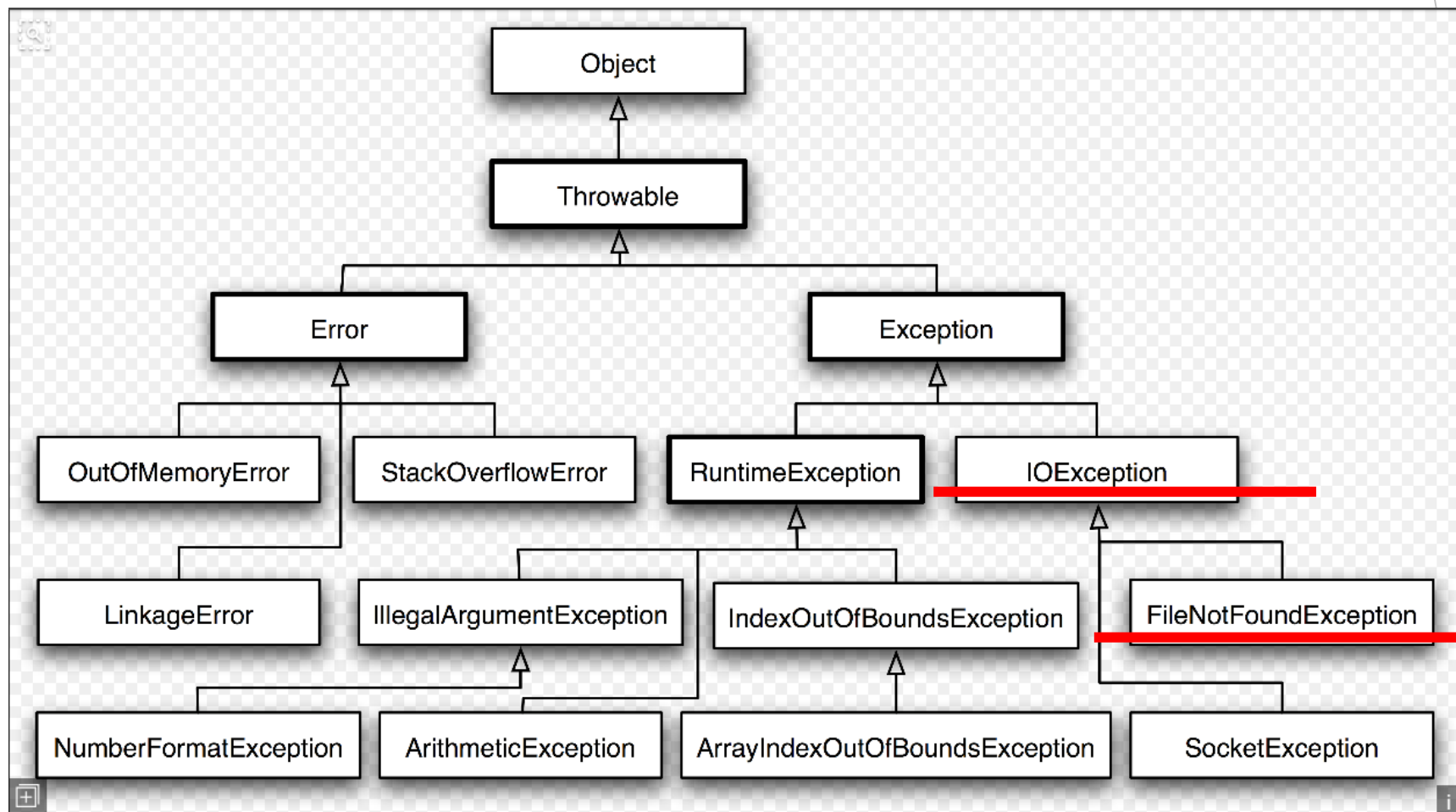


第8章 例外处理

問題

8-2

- ▶ Throwを使用しているメソッドをオーバーライドする際のルール



8-3

Main.java x +

Success ツイート St

```
1 import java.io.BufferedReader;
2 import java.io.InputStreamReader;
3
4 public class Main {
5     public static void main(String[] args) throws Exception {
6         // Your code here!
7         try{
8             x();
9             System.out.print("1 ");
10        }catch(RuntimeException ex){
11            System.out.print("2");
12        }
13    }
14    static void x()throws RuntimeException{
15        if(Math.random() > 0.1) { throw new RuntimeException(); }
16        System.out.print("3 ");
17    }
18 }
19
```

0.1以上だった場合
10行目処理実行

実行 (Ctrl-Enter)

8-3

Main.java x +

```
1 import java.io.BufferedReader;
2 import java.io.InputStreamReader;
3
4 public class Main {
5     public static void main(String[] args) throws Exception {
6         // Your code here!
7         try{
8             x();
9             System.out.print("1 ");
10        }catch(RuntimeException ex){
11            System.out.print("2");
12        }
13    }
14    static void x()throws RuntimeException{
15        if(Math.random() > 1.0) { throw new RuntimeException(); }
16        System.out.print("3 ");
17    }
18 }
19
```

Success ツイート Share

実行 (Ctrl-Enter)

1以下だった場合
16行目処理実行後
、9行目実行

8-4

```
Main.java x +
Runtime error(Exit statu

1 import java.io.BufferedReader;
2 import java.io.InputStreamReader;
3
4 public class Main {
5     public static void main(String[] args) throws Exception {
6         // Your code here!
7         System.out.println("1 ");
8         x();
9     }
10    static void x(){
11        y();
12    }
13    static void y(){
14        if(Math.random() > 0.1) { throw new RuntimeException(); }
15        System.out.println("2 ");
16    }
17 }
18
```

実行 (Ctrl-Enter)

出力 実行時エラー 入力 コメント 0

```
Exception in thread "main" java.lang.RuntimeException
    at Main.y(Main.java:14)
    at Main.x(Main.java:11)
    at Main.main(Main.java:8)
```

8-4

Main.java ✕ +

```
1 import java.io.BufferedReader;
2 import java.io.InputStreamReader;
3
4 public class Main {
5     public static void main(String[] args) throws Exception {
6         // Your code here!
7         try{
8             System.out.println("1 ");
9             x();
10        }catch(RuntimeException ex){
11            System.out.println("error ");
12        }
13    }
14    static void x(){
15        y();
16    }
17    static void y(){
18        if(Math.random() > 0.1) { throw new RuntimeException(); }
19        System.out.println("2 ");
20    }
21 }
22
```

出力 入力 コメント 0

1
error

8-5

Main.java ✕ +

```
1 import java.io.BufferedReader;
2 import java.io.InputStreamReader;
3
4 public class Main {
5     public static void main(String[] args) {
6         // Your code here!
7         x();
8         System.out.println("1 ");
9     }
10    static void x(){
11        y();
12        System.out.print("2 ");
13    }
14    static void y(){
15        throw new Exception();
16    }
17 }
18
```

コンパイルエラー 入力 コメント 0

Main.java:15: error: unreported exception Exception; must be caught or declared to be thrown
 throw new Exception();
 ^
1 error

8-6

Main.java x + Runtime

```
1 import java.io.BufferedReader;
2 import java.io.InputStreamReader;
3
4 public class Main {
5     public static void main(String[] args) throws Exception {
6         // Your code here!
7         x();
8         System.out.print("1 ");
9     }
10    static void x() throws Exception {
11        if(Math.random() > 0.1) { throw new Exception(); }
12        System.out.print("2 ");
13    }
14 }
15
```

出力 実行時エラー 入力 コメント 0

Exception in thread "main" java.lang.Exception
at Main.x(Main.java:11)
at Main.main(Main.java:7)

8-7

```
1 import java.io.BufferedReader;
2 import java.io.InputStreamReader;
3
4 public class Main {
5     public static void main(String[] args) {
6         // Your code here!
7         String s = "123.45";
8         change(s);
9     }
10    public static void change(String s){
11        try{
12            int i = Integer.parseInt(s);
13            System.out.println(i);
14        }catch(Exception e){
15            System.out.println("caught exception : " + i);
16        }finally{
17            System.out.println();
18        }
19    }
20 }
21
```

ローカル変数
(p.161)

8-8

Main.java x +

Success

```
1 import java.io.BufferedReader;
2 import java.io.InputStreamReader;
3
4 public class Main {
5     public static void main(String[] args) throws Exception {
6         // Your code here
7         String[] week_days = {"月", "火", "水", "木", "金", "土", "日"};
8         for (int i=1; i<=7; i++){
9             try{
10                 System.out.println("The day of week: "+week_days[i]);
11             } catch (RuntimeException ex){
12                 System.out.println("error");
13             }
14         }
15     }
16 }
17 }
```

i を1で初期化している

出力 入力 コメント 0

The day of week: 火
The day of week: 水
The day of week: 木
The day of week: 金
The day of week: 土
The day of week: 日
error

実行 (Ctrl-Enter)

i	中身
0	月
1	火
2	水
3	木
4	金
5	土
6	日
7	

8-9

Main.java x +

```
1 import java.io.BufferedReader;
2 import java.io.InputStreamReader;
3
4 public class Main {
5     public static void main(String[] args) throws Exception {
6         // Your code here!
7         int[] x = {0,1,2,3,4};
8         try{
9             System.out.println("x[6]: "+x[6]);
10            System.out.println("x[3]: "+x[3]);
11        }catch(Exception e){
12            System.out.println("ex1 ");
13        }catch(ArrayIndexOutOfBoundsException oe){
14            System.out.println("ex2 ");
15        }finally{
16            System.out.println("finally block");
17        }
18        System.out.println("x[0]: "+ x[0]);
19    }
20 }
21
```

コンパイルエラー 入力 コメント 0

Main.java:13: error: exception ArrayIndexOutOfBoundsException has already been caught
 }catch(ArrayIndexOutOfBoundsException oe){
 ^

1 error

8-10

Main.java ✕ +

```
1 import java.io.BufferedReader;
2 import java.io.InputStreamReader;
3
4 public class Main {
5     public static void main(String[] args) {
6         // Your code here!
7         try{
8             System.out.println("I was in try");
9         }finally{
10             System.out.println("I was finally");
11         }
12     }
13 }
14
```

例外関係なく実行される

出力 入力 コメント 0

I was in try
I was finally

8-11

Main.java x +

```
1 import java.io.BufferedReader;
2 import java.io.InputStreamReader;
3
4 public class Main {
5     static void method(){
6         int ary[] = new int[5];
7         for (int i = 0 ; i <= 5 ; i++) ary[i] = i;
8     }
9     public static void main(String[] args) {
10        // Your code here!
11        try{
12            method();
13            System.out.print("try ");
14        } catch (ArrayIndexOutOfBoundsException e) {
15            System.out.print("catch1 ");
16        } catch (Exception e) {
17            System.out.print("catch2 ");
18        } finally{
19            System.out.print("finally ");
20        }
21        System.out.print("done.");
22    }
23 }
24
```

例外関係なく実行される

出力 入力 コメント 0

catch1 finally done.

8-12

Main.java ✕ +

```
1 import java.io.BufferedReader;
2 import java.io.InputStreamReader;
3
4 public class Main {
5     private short s;
6     private Integer i;
7     public Main(int i){
8         this.i = this.i + i + s;
9         this.s = 0;
10    }
11    public void print(){System.out.print("s =" + s + ": i =" + i);}
12    public static void main(String[] args){
13        Main m = new Main(5);
14        m.print();
15    }
16 }
17
```

Nullが代入される

出力 実行時エラー 入力 コメント 0

Exception in thread "main" java.lang.NullPointerException
at Main.<init>(Main.java:8)
at Main.main(Main.java:13)

8-13

Main.java ✕ +

```
1 import java.io.BufferedReader;
2 import java.io.InputStreamReader;
3
4 class P {
5     public void strToNum(String s) throws NumberFormatException{
6         System.out.print("P :"+Integer.parseInt(s));
7     }
8 }
9 class C extends P{
10    public void strToNum(String s) throws Exception{
11        System.out.print("C :"+Integer.parseInt(s));
12    }
13 }
14 public class Main{
15     public static void main(String[] args){
16         P p = new C();
17         p.strToNum("a");
18     }
19 }
```

コンパイルエラー 入力 コメント 0

Main.java:10: error: strToNum(String) in C cannot override strToNum(String) in P
public void strToNum(String s) throws Exception{
^
overridden method does not throw Exception
1 error

8-14

Main.java x +

```
1 import java.io.BufferedReader;
2 import java.io.InputStreamReader;
3
4 class P {
5     public void strToNum(String s) {
6         System.out.print("P :"+Integer.parseInt(s));
7     }
8 }
9 class C extends P{
10    public void strToNum(String s) throws RuntimeException{
11        System.out.print("C :"+Integer.parseInt(s));
12    }
13 }
14 public class Main{
15     public static void main(String[] args){
16         C c = new C();
17         c.strToNum("a");
18     }
19 }
```

出力 実行時エラー 入力 コメント 0

```
Exception in thread "main" java.lang.NumberFormatException: For input string: "a"
    at java.base/java.lang.NumberFormatException.forInputString(NumberFormatException.java:65)
    at java.base/java.lang.Integer.parseInt(Integer.java:652)
    at java.base/java.lang.Integer.parseInt(Integer.java:770)
    at C.strToNum(Main.java:11)
    at Main.main(Main.java:17)
```


8-15

MyCar.java ✕ +

```
1 import java.io.BufferedReader;
2 import java.io.InputStreamReader;
3
4 import java.io.*;
5 public class MyCar extends Vehicle {
6     int speed = 0;
7     int year = 1960;
8     int price = 0;
9     public static void main(String[] args){
10         System.out.println("There come my car!");
11     }
12     int getPrice(){
13         return price;
14     }
15     int getYear()throws NullPointerException{
16         return year;
17     }
18     int getSpeed()throws IOException{
19         return speed;
20     }
21 }
22 class Vehicle{
23     int getPrice()throws IOException{
24         return 50000;
25     }
26     int getYear(){
27         return 1990;
28     }
29     int getSpeed(){
30         return 60;
31     }
32 }
```

コンパイルエラー 入力 コメント 0

MyCar.java:18: error: getSpeed() in MyCar cannot override getSpeed() in Vehicle
int getSpeed()throws IOException{
^
overridden method does not throw IOException
1 error