

Exceptions From Scratch

- Java has a whole host of exceptions built in
 - IOException
 - ArrayIndexOutOfBoundsException
 - NullPointerException
- These are mostly generated behind the scenes, for example when you try to open a file or accidentally overwrite an array, and all you need to do is handle (or “catch”) them
- But sometimes you want specialised exceptions

Special Exception

```
1  public class InvalidPasswordException extends Exception{
2      private final String failMessage;
3
4      public InvalidPasswordException(String message) {
5          failMessage = message;
6      }
7
8      public String toString() {
9          return this.getClass().getName() + ": " + failMessage;
10     }
11 }
```

```
1 public class Register {
2     private final String username;
3     private final String password;
4
5     public Register(String username, String password) {
6         this.username = username;
7         this.password = password;
8         try {
9             validatePassword();
10            createAccount();
11        } catch (InvalidPasswordException ipe){
12            System.out.println("Registration Failed. " + ipe.toString()),
13        }
14    }
15
16    private void validatePassword() throws InvalidPasswordException { ←
17        if(password.length() < 8) {
18            throw new InvalidPasswordException("Password must be at least 8 characters long."); ←
19        } else if(!password.contains("[0-9]+")) {
20            throw new InvalidPasswordException("Password must contain at least one number."); ←
21        }
22    }
23
24    private void createAccount() {}
25 }
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1 public class Register {
2     private final String username;
3     private final String password;
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5     public Register(String username, String password) throws InvalidPasswordException { ←
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12    private void validatePassword() throws InvalidPasswordException {
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