

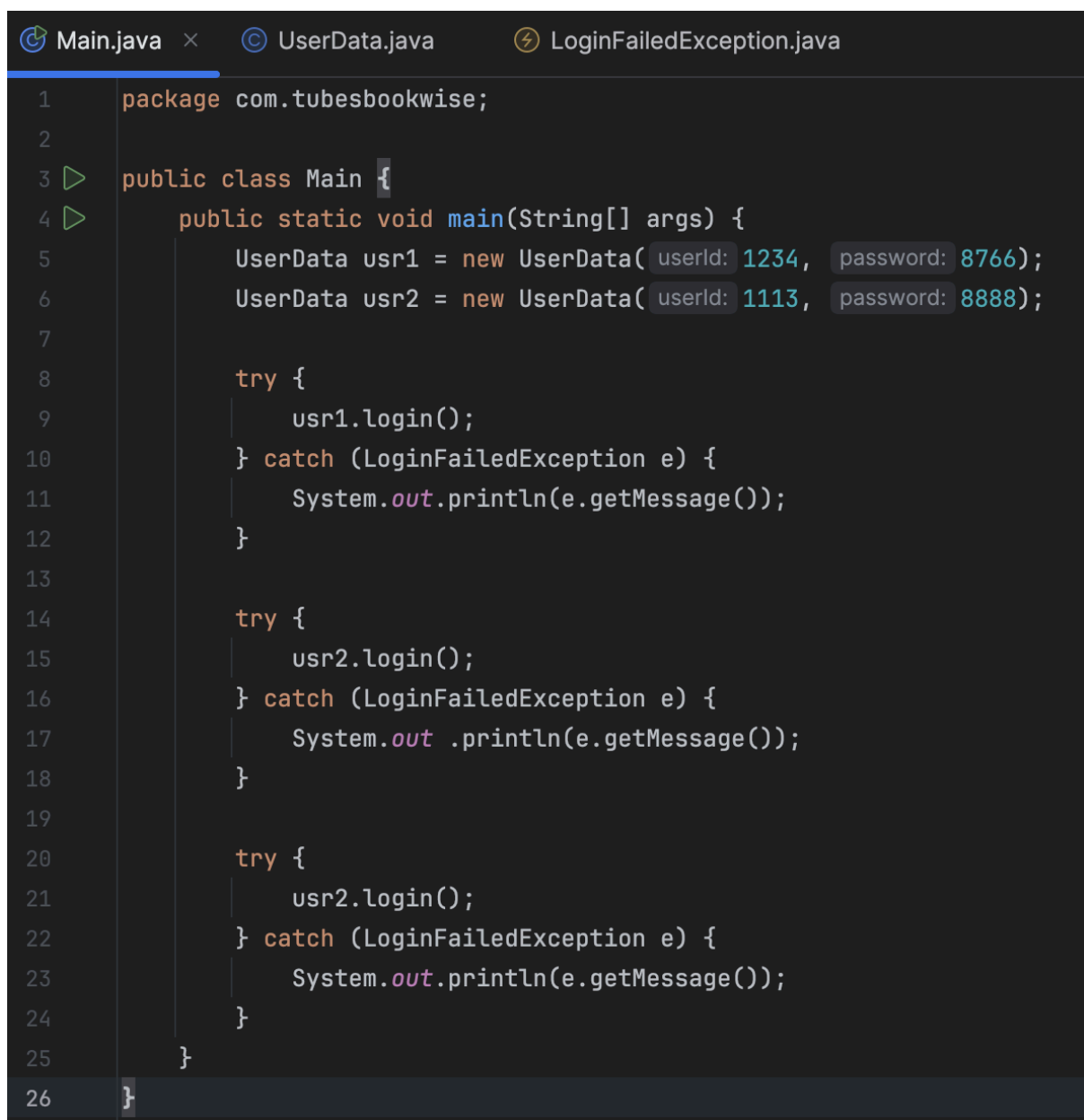
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```
/Library/Java/JavaVirtualMachines/jdk-23.jdk/Cont
Login successful for user 1234
Login user 1113 gagal, telah gagal login 1 kali
Login user 1113 gagal, telah gagal login 2 kali

Process finished with exit code 0
```



```
Main.java × UserData.java LoginFailedException.java
1 package com.tubesbookwise;
2
3 public class Main {
4     public static void main(String[] args) {
5         UserData usr1 = new UserData( userId: 1234, password: 8766);
6         UserData usr2 = new UserData( userId: 1113, password: 8888);
7
8         try {
9             usr1.login();
10        } catch (LoginFailedException e) {
11            System.out.println(e.getMessage());
12        }
13
14        try {
15            usr2.login();
16        } catch (LoginFailedException e) {
17            System.out.println(e.getMessage());
18        }
19
20        try {
21            usr2.login();
22        } catch (LoginFailedException e) {
23            System.out.println(e.getMessage());
24        }
25    }
26 }
```

```
Main.java  UserData.java  LoginFailedException.java

1  package com.tubesbookwise;
2
3  public class UserData { no usages
4      private final int userId; 6 usages
5      private final int password; 3 usages
6      private boolean isLoggedIn; 3 usages
7
8      public UserData(int userId, int password) { no usages
9          this.userId = userId;
10         this.password = password;
11         this.isLoggedIn = false;
12     }
13
14     public void login() throws LoginFailedException { no usages
15         int sum = this.userId + this.password;
16
17         if (String.valueOf(this.userId).length() != 4 || String.valueOf(this.password).length() != 4) {
18             throw new IllegalArgumentException("User ID and password must each be 4 digits.");
19         }
20
21         if(sum == 10000) {
22             this.isLoggedIn = true;
23             System.out.println("Login successful for user " + this.userId);
24         } else {
25             this.isLoggedIn = false;
26             throw new LoginFailedException("Login user " + this.userId + " gagal", this.userId);
27         }
28     }
29 }
```

```

Main.java  UserData.java  LoginFailedException.java x
1  package com.tubesbookwise;
2
3  import java.util.HashMap;
4
5  public class LoginFailedException extends Exception { no usages
6      private static HashMap<Integer, Integer> failedCount = new HashMap<>(); 5 usages
7      private int userId; 3 usages
8
9      public LoginFailedException(String msg, int userId) { no usages
10         super(msg);
11         this.userId = userId;
12
13         if (failedCount.containsKey(userId)) {
14             failedCount.put(userId, failedCount.get(userId) + 1);
15         } else {
16             failedCount.put(userId, 1);
17         }
18     }
19
20     public int getUserId(){ no usages
21         return this.userId;
22     }
23
24     public static int getFailedCounter(int userId) { 1 usage
25         return failedCount.getOrDefault(userId, defaultValue: 0);
26     }
27
28     @Override
29     public String getMessage() {
30         int count = getFailedCounter(userId);
31         return super.getMessage() + ", telah gagal login " + count + " kali";
32     }
33 }

```