Oracle academy

Practice-6.2:

1. Describe the difference between a syntax error, a logic error, and an exception
   Code:
   Syntax error:
   int number = 10 // Missing semicolon
   logic error:
   int a = 5;
   int b = 3;
   int result = a - b; // Intended to add, but used subtraction
   exception:
   int[] arr = new int[5];
   int value = arr[10]; // ArrayIndexOutOfBoundsException

```
 1  package helloworld;
 2⊖ import java.util.Arrays;□
 5
 6  public class Main {
 7⊖     public static void main(String[] args) {
⊗ 8          String str = "Hello World";
 9          for(int i = 0; i < 4; i++); // Semicolon terminates the for loop
10          {
11              System.out.println(str);
12              str+= "!";
13          }
14      }
15  }
```

2. What is wrong with the following code? It should print "Hello World!"
    four times to the screen
    Code:
    String str = "Hello World";
    for(int i = 0; i < 4; i++); // Semicolon terminates the for loop
    {
        System.out.println(str);
        str+= "!";
    }
3. Describe an exception that you have experienced in your program
    before. Explain how it could be handled with a try/catch block of code.
    Code:
    int[] arr = new int[5];
    System.out.println(arr[10]); // ArrayIndexOutOfBoundsException

4. Write a segment of code that has:

    a. A syntax error

    b. A logic error

    c. An exception

syntax error:

int number = 10; // Missing semicolon

logic error:

int a = 5;

int b = 3;

int result = a - b; // Intended to add, but used subtraction

exeption:

int[] arr = new int[5];

System.out.println(arr[10]); // ArrayIndexOutOfBoundsException

5. What is the difference between a checked exception and an unchecked exception?
   Code:
   Checked exeption:

```
try {
   FileReader file = new FileReader("somefile.txt");
} catch (FileNotFoundException e) {
   e.printStackTrace();
}
```

   Unchecked exeption:

```
String str = null;
System.out.println(str.length()); // NullPointerException
```