LAB GUIDE – SEMESTER 2 – COURSE: Java Programming I
LAB: 06

Java Programming I
Lab 6

Objectives:

In this session, you will be practicing with:

- *Catch error handling programming using Exception*
- *Define and use Exception*
- *Nested classes in Java*

Part I: Workshop – 15 minutes - if not done

Part II: Step by step – 45 minutes

Exercise 1: ***Catch error handling programming using Exception:*** (10 minutes)

```
/**
 * Write a description of class Client here.
 *
 * @author (your name)
 * @version (a version number or a date)
 */
public class Client {
    /**
     * Constructor for objects of class Client
     */
    public Client() {
        // To do:
    }

    public void doUnchecked(String value) {
        // Can phai check exception, neu khong --> bug
        int result=canThrowUncheckedException(value);
        System.out.println("result="+result);
    }

    private int canThrowUncheckedException(String value) {
        return Integer.parseInt(value);
    }

    public void doChecked() {
        try {
            // Buoc phai check exceptions o day! Khong cach nao khac
            canThrowCheckedException();
            System.out.println("OK");
        }catch(Exception ex) {
            System.out.println(ex);
        }
    }

    private int canThrowCheckedException() throws Exception{
        throw new Exception("Failure");
```

```
    }
}
```

Questions:

- Distinguishing unchecked Checked Exception and Exception?
- Using Checked Exceptions and using unchecked Exceptions?
- Why should not catch (Exception ex)?

Exercise 2: ***Unchecked Exception***: (20 minutes)

```
/**
 * Write a description of class Client here.
 *
 * @author (your name)
 * @version (a version number or a date)
 */
public class UncheckedException{
    /**
     * Constructor for objects of class Client
     */
    public UncheckedException () {
        // To do:
    }

    public static void main(String[] args) {
        int i, n = 2;
        int a[] = new int[n];

        //Declare Scanner Object named input
        java.util.Scanner input = new java.util.Scanner(System.in);

        for(i=0; i<=n; i++)
        {
            System.out.printf("a[%d] = ", i);
            a[i] = input.nextInt();
        }
    }
}
```

Questions:

- ✔ Compile and run the test class.
- ✔ How many Exceptions may occur in the above code?
- ✔ Please correct the above code to be able to catch every Exception that.

Exercise 3: (10 minutes)

```
/**
 * Write a description of class Client here.
 *
 * @author (your name)
 * @version (a version number or a date)
 */
public class MoreClass{

    public static void main(String[] args) {
        Object obj1 = new Object();
        System.out.println(obj1);

        Object obj2 = new Object(){
            public String toString(){
```

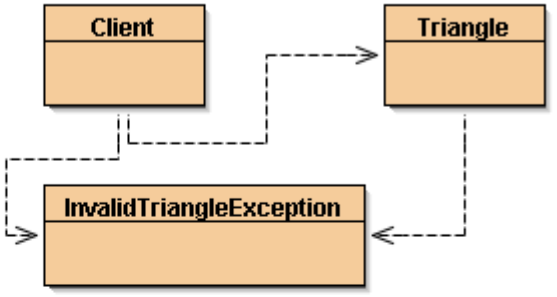
```
                return "this is obj2";
            }
        };
        System.out.println(obj2);
    }
}
```

Questions:

- ✔ Compile and run the test class.
- ✔ Why `System.out.println(obj1);` be displayed?
- ✔ What's the difference between two objects obj1 and obj2?

Part III: Do it yourself – 60 minutes

Exercise 1:



Create an InvalidTriangleException by inheritance Exception class. Exception to use for the process of catching errors during object initialization triangle (Triangle), if the user does not properly initialize the edges of the triangle will throw out InvalidTriangleException.
Using the recently defined class java program to build script as follows:

- ✔ Declaring a triangular array of 5 elements.
- ✔ Created 5 triangular objects stored in the array with the parameters of the triangle edges are entered from the keyboard.
- ✔ Printing the fifth area of that triangle.

Exercise 2:

Part IV: Homework

Exercise 12,13,14

References

1) **Onlive varsity Java Programming I, Aptech Education**
2) **http://www.java2s.com**