

Lab Session 17/11/22-----

The image displays two screenshots of the Eclipse IDE. The top screenshot shows the `HandsOn_Lab` package with two exception classes and a `TaxCalculator` class. The bottom screenshot shows the `CalculatorSimulator` class, which tests the `TaxCalculator` methods. A console window in the bottom right shows an exception being thrown during a test case.

```
1 package HandsOn_Lab;
2 class CountryNotValidException extends Exception{
3     CountryNotValidException(String str) {
4         super(str);
5     }
6 }
7 class TaxNotEligibleException extends Exception{
8     TaxNotEligibleException(String str){
9         super(str);
10    }
11 }
12 public class TaxCalculator {
13     double taxAmount;
14     double calculateTax (String ename,boolean isIndian,double empSal) throws CountryNotValidE
15     if(isIndian==false)
16         throw new CountryNotValidException("The employee should be an Indian citizen for
17     else if(ename==null)
18         throw new CountryNotValidException("The employee name cannot be empty");
19     else if(empSal>100000&&isIndian==true)
20         taxAmount =empSal *8/100 ;
21     else if(empSal<100000&&empSal>50000&&isIndian==true)
22         taxAmount =empSal *6/100 ;
23     else if(empSal<50000&&empSal>30000&&isIndian==true)
```

```
1 package HandsOn_Lab;
2 //Problem 1 of Lab 17th Nov
3 public class CalculatorSimulator {
4
5     public static void main(String[] args) throws Coun
6         // TODO Auto-generated method stub
7         TaxCalculator obj=new TaxCalculator();
8         //Test case -1
9         System.out.println("Tax amount is:"+ obj.calculateTax("Ron", false, 34000));
10        //Test case -2
11        System.out.println("Tax amount is:"+obj.calculateTax("Tim", true, 1000));
12        //Test case -3
13        System.out.println("Tax amount is: "+obj.calculateTax("Jack", true, 55000));
14        //Test case -4
15        System.out.println("Tax amount is:"+obj.calculateTax(null, true, 30000));
16    }
17 }
18 }
19 }
```

```
<terminated> CalculatorSimulator [Java Application] F:\Java\bin\javaw.exe (17-Nov-2022, 1:46:57 pm - 1:46:57 pm)
Exception in thread "main" HandsOn_Lab.CalculatorSimulator
    at HandsOn_Lab.TaxCalculator.calculateTax(TaxCalculator.java:23)
    at HandsOn_Lab.CalculatorSimulator.main(CalculatorSimulator.java:15)
```

```
9 Output Format
10 Print the product if both are positive else print the
11 java.lang.Exception: x and y should not be zero.
12
13 */
14 import java.util.Scanner;
15
16 public class Lab_17th22Problemcode2 {
17
18     public static void main(String[] args) throws Exception {
19         // TODO Auto-generated method stub
20         Scanner sc=new Scanner(System.in);
21         System.out.println("Enter two numbers=");
22         int x=sc.nextInt();
23         int y=sc.nextInt();
24         if(x<0||y<0)
25             throw new Exception("x and y should not be zero.");
26         else
27             System.out.println("Product of x and y: "+(x*y));
28         }
29     }
30 }
31
```

Console X

```
<terminated> Lab_17th22Problemcode2 [Java Application] F:\Java\bin\java.exe (17-Nov-2022, 1:47:16 pm -
Enter two numbers=
-10
-20
Exception in thread "main" java.lang.
at HandsOn_Lab.Lab_17th22Pro
```

```
12 */
13 public class Lab_17th22Problemcode3 {
14     int addTwoPositive (int a,int b) {
15         try {
16             if(a<0||b<0) {
17                 throw new ArithmeticException("Non-Positive Integer sent");
18             }
19         }catch(ArithmeticException ae){
20             System.out.println(ae.getMessage());
21             return 0;
22         }
23         finally {
24             System.out.println("I will always execute");
25         }
26         return (a+b);
27     }
28     public static void main(String[] args) {
29         Lab_17th22Problemcode3 obj=new Lab_17th22Problemcode3();
30         System.out.println("Sum of them: "+obj.addTwoPositive(-10, 20));
31     }
32 }
33
```

Console X

```
<terminated> Lab_17th22Problemcode3 [Java Application] F:\Java\bin\java.exe (17-Nov-2022, 1:47:50 pm -
Non-Positive Integer sent
I will always execute
Sum of them: 0
```