Experiment Number: 7 (Exception Handling)

Name	**Shreya Shetty**
UID	**2019140059**
Class	**TE IT**
Batch	**D**
Subject	**OOP Lab**

Aim: Compute power of a number. Create a class MyPower which consists of a single method long power(int, int). This method takes two integers, n and p, as parameters and finds n^p. i.e. power(2,3) will be 2^3 = 8. If either n or p is negative, then the method must throw an exception which says "n or p should not be negative". Also, if both n and p are zero, then the method must throw an exception which says "n and p cannot be 0"

Program:

MyPower.java

```
//Shreya Shetty TE IT 2019140059 Batch D
package oopExp7;
import static java.lang.Math.pow;

public class MyPower
{
    long power(int n, int p) throws Exception
    {
        if (n < 0 || p < 0)
        {
            throw new Exception("n or p should not be negative.");
        }
        else if (n == 0 && p == 0) {

            throw new Exception("n and p cannot be zero");
        }
        return (long)pow(n, p);
    }
}
```

Exp7.java

```
//Shreya Shetty TE IT 2019140059 Batch D
package oopExp7;
import java.util.*;
public class Exp7 {
    public static void main(String[] args) throws Exception
    {
        Scanner sc=new Scanner(System.in);
        while(true)
        {
            System.out.print("\nEnter Integer n : ");
            int n=sc.nextInt();
            System.out.print("Enter Integer p : ");
            int p=sc.nextInt();
            MyPower obj= new MyPower();
```

```
            try
            {
                long pow=obj.power(n, p);
                System.out.print("The value of n^p i.e. power(n,p) is " + pow);

            }
            catch(Exception e)
            {
                System.out.println(e);
            }
            System.out.print("\nEnter -1 to exit & any other number to continue : ");
            if(sc.nextInt() == -1)
            {
                System.out.println("\nEXIT SELECTED!\n");
                break;
            }
            else
            System.out.println("\nEXIT NOT SELECTED!\n");
        }
    }
}
```

Output:

```
PS D:\PROJECT_AND_CODES\Java> javac ./oopExp7/MyPower.java
PS D:\PROJECT_AND_CODES\Java> javac ./oopExp7/Exp7.java
PS D:\PROJECT_AND_CODES\Java> java oopExp7.Exp7

Enter Integer n : 0
Enter Integer p : 0
java.lang.Exception: n and p cannot be zero

Enter -1 to exit & any other number to continue : 1

EXIT NOT SELECTED!


Enter Integer n : -3
Enter Integer p : 5
java.lang.Exception: n or p should not be negative.

Enter -1 to exit & any other number to continue : 1

EXIT NOT SELECTED!


Enter Integer n : 7
Enter Integer p : 8
The value of n^p i.e. power(n,p) is 5764801
Enter -1 to exit & any other number to continue : 1

EXIT NOT SELECTED!


Enter Integer n : 4
Enter Integer p : -2
java.lang.Exception: n or p should not be negative.

Enter -1 to exit & any other number to continue : 3

EXIT NOT SELECTED!


Enter Integer n : 6
Enter Integer p : 3
The value of n^p i.e. power(n,p) is 216
Enter -1 to exit & any other number to continue : -1

EXIT SELECTED!

PS D:\PROJECT_AND_CODES\Java>
```