OOPS LAB ACTIVITY 2

Name : Sarvagya Gupta

Sap Id : 500083195

Roll No. : R2142201047

TITLE: Basic Java Programming

1) **Write a program to find the largest of 3 numbers.**

Code :

```java
public class lab2_LargestNo
{

    Run | Debug
    public static void main(String args[])
    {
        int a,b,c;


        a=Integer.parseInt(args[0]);
        b=Integer.parseInt(args[1]);
        c=Integer.parseInt(args[2]);


        if(a>b && a>c)
        {
            System.out.print(a+" is the largest number");
        }

        else if (b>a && b>c)
        {
            System.out.print(b+" is the largest number");
        }

        else
        {
            System.out.print(c+" is the largest number ");
        }

    }
}
```

Output

```
Exception in thread "main" java.lang.ArrayIndexOutOfBoundsException: Index 0 out of bounds for length 0
        at lab2_LargestNo.main(lab2_LargestNo.java:9)
PS E:\codes\java> java lab2_LargestNo 98 52 40
98 is the largest number
PS E:\codes\java> []
```

2) **Write a program to implement a command line calculator. (Try for Add sub Mul Division in same program for 2 digits.)**

Code :

```java
lab2_calculator.java > ...
1
2
3    public class lab2_calculator
4    {
         Run | Debug
5        public static void main (String args[])
6        {
7            int m,n;
8
9            m=Integer.parseInt(args[0]);
10           n=Integer.parseInt(args[1]);
11
12           int sum = m + n;
13           System.out.println("Sum = "+sum);
14
15           int diff = m - n;
16           System.out.println("Difference = "+diff);
17
18           int mul = m * n;
19           System.out.println("Multiply = "+mul);
20
21           int div = m / n;
22           System.out.println("Division = "+div);
23
24       }
25   }
```

```
Exception in thread "main" java.lang.ArrayIndexOutOfBoundsException: Index 0 out of bounds for length 0
        at lab2_calculator.main(lab2_calculator.java:9)
PS E:\codes\java> java lab2_calculator  100 20
Sum = 120
Difference = 80
Multiply = 2000
Division = 5
PS E:\codes\java>
```

3) Write a program to accept 10 student's marks using Command Line Arguments, arrange it into ascending order, convert into the following grades and print marks and grades in the tabular form.
Between 40 and 50 : PASS
Between 51 and 75 : MERIT
and above : DISTINCTION

Code:

```java
lab2_Marks.java > lab2_Marks
1    public class lab2_Marks {
2
3
     Run | Debug
4        public static void main(String args[]){
5            int a[] = new int[10];
6            for( int i = 0; i <args.length; i++){
7                a[i] = Integer.parseInt(args[i]);
8            }
9            int temp;
10           for(int i = 0 ; i < 10; i++){
11               for(int j = i+1 ; j < 10; j++){
12                   if(a[i] > a[j]){
13                       temp = a[i];
14                       a[i] = a[j];
15                       a[j] = temp;
16                   }
17               }
18           }
19           for(int i = 0; i<10; i++){
20               if(a[i] >= 40 && a[i]<= 50){
21                   System.out.println(a[i] + " Pass");
22               }
23               else if(a[i] >= 51 && a[i]<= 75){
24                   System.out.println(a[i] + " Merit");
25               }
26               else{
27                   System.out.println(a[i] + " Distinction");
28               }
29           }
30       }
31   }
```

Output:

```
PS E:\codes\java> java lab2_Marks 30 50 99 60 75 45 55 83 10 63
10 Distinction
30 Distinction
45 Pass
50 Pass
55 Merit
60 Merit
63 Merit
75 Merit
83 Distinction
99 Distinction
PS E:\codes\java>
```

4) WAP to Take input as DD MM YYYY(04 08 2021) in command line and calculate number of days since 1 January 1970.

Code :

```java
public class lab2_Days
{



    Run | Debug
    public static void main(String args[])
    {
        int d = Integer.parseInt(args[0]);
        int m = Integer.parseInt(args[1]);
        int y = Integer.parseInt(args[2]);

        int monthDays[] = {31, 59, 90, 120, 151, 181, 212, 243, 273, 304, 334, 365};

        int dyear = y - 1970;
        int x, num = 0;

        for(x = 1970; x<=y; x++)
        {
            if(x%4 == 0 && x%400 == 0 && x%100 != 0){
                num++;
            }
        }

        int days;

        days = dyear*365 + monthDays[m-2] + d + num;
        System.out.print("Total days = " + days);
    }
}
```

Output:

```
PS E:\codes\java> java lab2_Days 12 08 2021
Total days = 18839
PS E:\codes\java>
```

5) WAP to print the following pattern using loops
```
*
***
*****
```

Code :

```java
lab2_star.java > ...
1    public class lab2_star{
         Run | Debug
2        public static void main(String args[]){
3            for(int i = 1; i<=5; i++){
4                for(int y = 1; y<=i; y++){
5                    if(i%2 == 0){
6                        // System.out.println();
7                    }
8                    else{
9                        System.out.print("*");
10                   }
11               }
12               System.out.println();
13           }
14       }
15   }
16
17   |
```

Output:

```
PS E:\codes\java> e:; cd 'e:\codes\java'; & 'c:\Users\Sarvagya Gupta\.vscode\extensions\vscjava.vscode-java-debug-0.35.0\scripts\launcher.bat' 'C:\Progr
am Files\Eclipse Foundation\jdk-11.0.12.7-hotspot\bin\java.exe' '-Dfile.encoding=UTF-8' '-cp' 'C:\Users\Sarvagya Gupta\AppData\Roaming\Code\User\workspac
eStorage\e078c57f59a9f97e58a3ad5c4d77e97b\redhat.java\jdt_ws\java_59701c25\bin' 'lab2_star'
*

***

*****
PS E:\codes\java>
```