JAVA LAB ASSIGNMENT – WEEK 1

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1) Write a Java Program to print hello world sting on the console.

Code:

```
public class HelloWorld {
    public static void main(String[] args)
    {
      System.out.println("Hello World");
    }
}
```

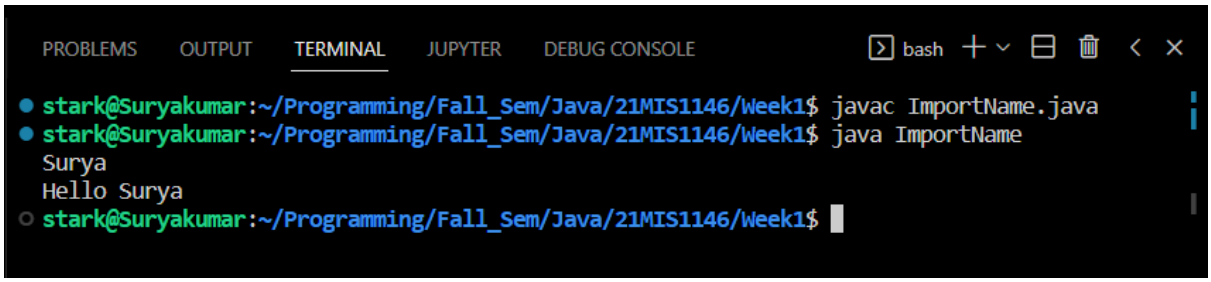
Output:

2) Write a Java program to prompt the user to enter his / her first name and last name then print 'Hello' on screen and then print the first name along with the last name on a separate line.

Code:

```
public class ImportName
  {
    public static void main(String[ ] args)
    {
      String name = System.console().readLine();
      System.out.println("Hello "+name);
    }
  }
```

Output:



3) Write a Java program to prompt the user to enter two binary numbers and display the sum of those two binary numbers on console.

Code:

```
import java.util.Scanner;

public class BinaryAddition {
  public static void main(String[] args) {
    long b1, b2;
    int i = 0, carry = 0;
    int sum[] = new int[10];
    Scanner scanner = new Scanner(System.in);
    System.out.println("Enter 1st Binary Number : ");
    b1 = scanner.nextLong();
    System.out.println("Enter 2nd Binary Number : ");
    b2 = scanner.nextLong();
    scanner.close();

    while (b1 != 0 || b2 != 0) {
      sum[i++] = (int) ((b1 % 10 + b2 % 10 + carry) % 2);
      carry = (int) ((b1 % 10 + b2 % 10 + carry) / 2);
      b1 = b1 / 10;
      b2 = b2 / 10;
    }
    if (carry != 0) {
      sum[i++] = carry;
    }
    --i;
    System.out.println("Output : ");
    while (i >= 0) {
      System.out.print(sum[i--]);
    }
    System.out.print("\n");
  }
}
```

Output:

```
PROBLEMS  OUTPUT  TERMINAL  JUPYTER  DEBUG CONSOLE                    bash
stark@Suryakumar:~/Programming/Fall_Sem/Java/21MIS1146/Week1$ javac BinaryAddition.java
stark@Suryakumar:~/Programming/Fall_Sem/Java/21MIS1146/Week1$ java BinaryAddition
Enter 1st Binary Number :
10110
Enter 2nd Binary Number :
01010
Output :
100000
stark@Suryakumar:~/Programming/Fall_Sem/Java/21MIS1146/Week1$
```

4) Write a Java program to prompt the user to enter the area of a circle and display the perimeter and diameter of the circle.

Code:

```java
import java.util.Scanner;
import static java.lang.Math.*;
public class Circle
{
    static final double PI=3.14;
    public static void main(String[] args)
    {
        Scanner scanner = new Scanner(System.in);
        System.out.print("Enter the Area of the Circle : ");
        double area= scanner.nextDouble();
        double radius= sqrt(area/PI);
        scanner.close();
        System.out.println("Perimeter = "+ 2 * PI * radius);
        System.out.println("Diameter = " + 2 * radius);
    }
}
```

Output:

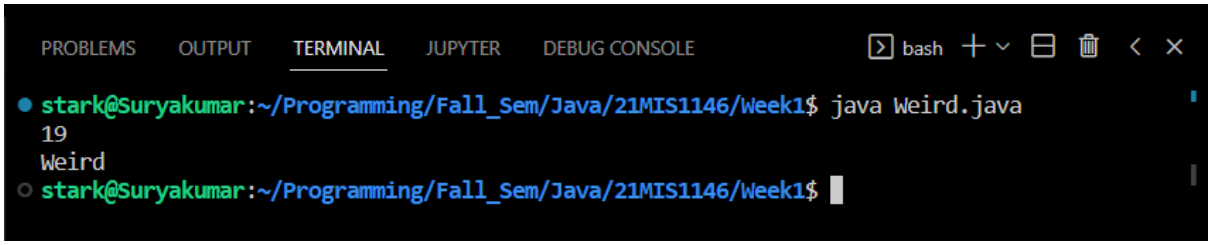
```
PROBLEMS  OUTPUT  TERMINAL  JUPYTER  DEBUG CONSOLE                    bash
stark@Suryakumar:~/Programming/Fall_Sem/Java/21MIS1146/Week1$ java Circle.java
Enter the Area of the Circle : 69
Perimeter = 29.43874997346185
Diameter = 9.375398080720334
stark@Suryakumar:~/Programming/Fall_Sem/Java/21MIS1146/Week1$
```

5) Write a Java Program to read an integer and perform the following actions:
If input is odd, print Weird
If input is even and in the inclusive range 2 of to 5, print Not Weird
If input is even and in the inclusive range of 6 to 20, print Weird
If is even and greater than 20, print Not Weird

Code:

```java
import java.util.Scanner;
public class Weird {
    public static void main(String[] args)
    {
        Scanner scanner = new Scanner(System.in);
        int num =scanner.nextInt();
        scanner.close();
        if(num%2==1)
        System.out.println("Weird");
        else if(num%2==0)
        {
         if(num>=2 && num>=5)
            System.out.println("Not Weird");
         else if(num>=6 && num>=20)
            System.out.println("Weird");
         else
            System.out.println("Not Weird");
        }
    }
}
```

Output:



6) Write a java program to read an integer, a double, and a String from stdin, then print the values according to the instructions in the Output Format

Input Format
There are three lines of input:
The first line contains an integer.
The second line contains a double.
The third line contains a String.

Output Format
There are three lines of output:
On the first line, print String: followed by the unaltered String read from stdin.
On the second line, print Double: followed by the unaltered double read from stdin.
On the third line, print Int: followed by the unaltered integer read from stdin.

Code:

```java
import java.util.*;
public class ReadingNum {
    public static void main(String args[])
    {
        // Getting Inputs
        Scanner scanner = new Scanner(System.in);
        System.out.print("Enter an Integer : ");
        int num1 = scanner.nextInt();
        System.out.print("Enter a Double : ");
        double num2 = scanner.nextDouble();
        System.out.print("Enter a String : ");
        String str = System.console().readLine();
        scanner.close();

        //Printing Outputs
        System.out.println("String : "+ str);
        System.out.println("Double: "+ num2);
        System.out.println("Integer : "+ num1);
    }
}
```

Output:

7) Write a Java Program to perform the following tasks.
Input Format
Every line of input will contain a String followed by an integer.
Each String will have a maximum of 10 alphabetic characters, and each integer will be in the inclusive range from 0 to 999.

Output Format
In each line of output there should be two columns:
The first column contains the String and is left justified using exactly characters.
The second column contains the integer, expressed in exactly digits; if the original input has less than three digits, you must pad your output's leading digits with zeroes.

Code:

```java
import java.util.Scanner;
public class StrOutput {
    public static void main(String[] args)
    {
            Scanner scanner =new Scanner(System.in);

            System.out.print("Enter the number of lines : ");
            int n = scanner.nextInt();
            for(int i=0;i<n;i++)
            {
                System.out.print("Enter the String Line : ");
                String str=scanner.next();
                int num=scanner.nextInt();
                System.out.printf("%-14s %03d\n", str, num);
            }
            scanner.close();
    }
}
```

Output:

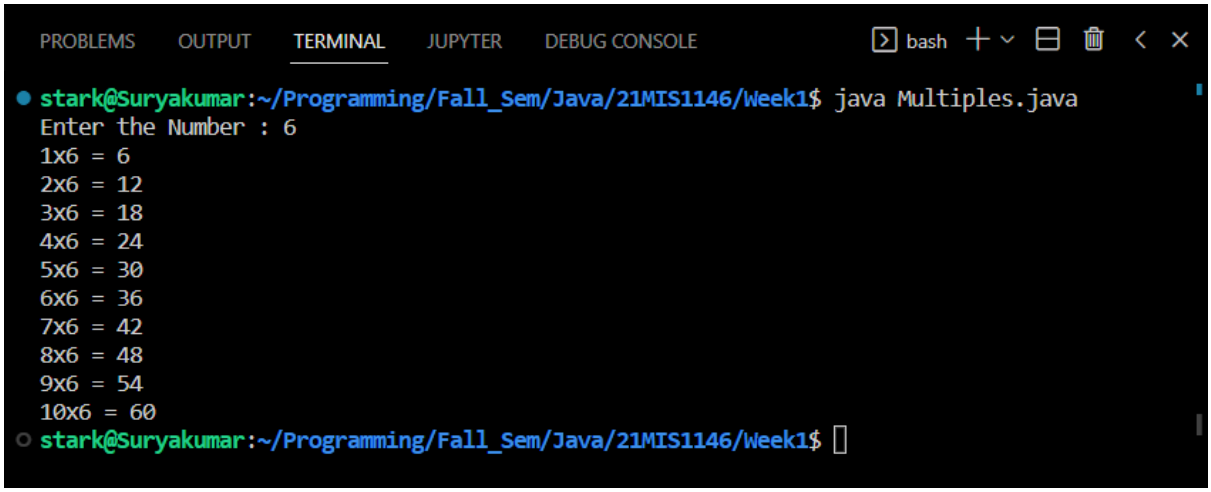
```
PROBLEMS  OUTPUT  TERMINAL  JUPYTER  DEBUG CONSOLE                bash
stark@Suryakumar:~/Programming/Fall_Sem/Java/21MIS1146/Week1$ java StrOutput.java
Enter the number of lines : 3
Enter the String Line : Surya 1
Surya          001
Enter the String Line : Surya 12
Surya          012
Enter the String Line : Hi 123
Hi             123
stark@Suryakumar:~/Programming/Fall_Sem/Java/21MIS1146/Week1$
```

8) Write a Java Program for reading an integer and print first 10 multiples of that.

Code:

```java
import java.util.Scanner;
public class Multiples {
    public static void main(String args[])
    {
        Scanner scanner = new Scanner(System.in);
        System.out.print("Enter the Number : ");
        int num = scanner.nextInt();
        scanner.close();
        for(int i = 1; i<11;i++)
        {
            System.out.println(i+"x"+num+" = "+ i*num);
        }
    }
}
```

Output:



9) Write a Java program able to read Command Line Arguments and display those arguments with Enhanced for Loop

Code:

```
      public class CommandLineArg {

    public static void main(String args[])
      {
        for(String i:args)
            {
                    System.out.println(i);
            }
      }
}
```

Output: