ASSIGNMENT NO.02

1. Write a Java program to print 'Hello' on screen and then print your name on a separate line.
Expected Output :
Hello
Alexandra Abramov

```
class QA1

{

	public static void main(String args[])

	{

		System.out.println("Hello\n" + "Shrutika");

	}

}
```

2. Write a Java program to print the sum of two numbers.
Test Data: 74 + 36

```
import java.util.*;

class QA2

{

	public static void main(String args[])

	{

		int a = 74;

		int b = 36;

		int sum = a + b;

		System.out.println(+a+ "+" +b+ "=" +sum);

	}

}
```

3. Write a Java program to divide two numbers and print on the screen.
Test Data : 50/3
Expected Output : 16

```
import java.util.*;

class QA4

{

	public static void main(String args[])

	{

		int a = 50;

		int b = 3;

		int div = a/b;

		System.out.println(+a+ "/" +b+ "=" +div);

	}

}
```

4. Write a Java program to print the result of the following operations.
Test Data:
a. -5 + 8 * 6
b. (55+9) % 9
c. 20 + -3*5 / 8
d. 5 + 15 / 3 * 2 - 8 % 3
Expected Output :
43
1
19
13

```
import java.util.*;

class QA5

{

	public static void main(String args[])

	{

		int a = -5 + (8 * 6);

		int b = (55+9) % 9;

		int c = 20 + -((3*5) / 8);

		int d = 5 + 15 / 3 * 2 - 8 % 3;

		System.out.println("-5 + 8 * 6 = " +a);

		System.out.println("(55+9) % 9 = " +b);

		System.out.println("20 + -3*5 / 8 = " +c);

		System.out.println("5 + 15 / 3 * 2 - 8 % 3 = " +d);

	}

}
```

5. Write a Java program that takes two numbers as input and display the product of two numbers.
Test Data:
Input first number: 25
Input second number: 5
Expected Output :
25 x 5 = 125

```
import java.util.Scanner;


class QA5
{
	public static void main(String args[])
	{
		Scanner sc = new Scanner(System.in);
		System.out.println("Enter the first number: ");
		int a = sc.nextInt();
		System.out.println("Enter the second number: ");
		int b = sc.nextInt();


		int prod = a*b;
		System.out.println(+a+ "x" +b+ "=" +prod);
	}
}
```

6. Write a Java program to print the sum (addition), multiply, subtract, divide and remainder of two numbers.
Test Data:
Input first number: 125
Input second number: 24
Expected Output :
125 + 24 = 149
125 - 24 = 101
125 x 24 = 3000
125 / 24 = 5
125 mod 24 = 5

```
import java.util.Scanner;


class QA6

{

	public static void main(String args[])

	{

		Scanner sc = new Scanner(System.in);

		System.out.println("Enter the first number: ");

		int a = sc.nextInt();

		System.out.println("Enter the second number: ");

		int b = sc.nextInt();


		int sum = a + b;

		int diff = a - b;

		int mul = a * b;

		double div = a / b;

		double mod = a % b;


		System.out.println(+a+ "+" +b+ "=" +sum);

		System.out.println(+a+ "-" +b+ "=" +diff);

		System.out.println(+a+ "*" +b+ "=" +mul);
```

```
                System.out.println(+a+ "/" +b+ "=" +div);
                System.out.println(+a+ " mod " +b+ "=" +mod);
        }
}
```

7. Write a Java program that takes a number as input and prints its multiplication table upto 10.
Test Data:
Input a number: 8
Expected Output :
8 x 1 = 8
8 x 2 = 16
8 x 3 = 24
…
8 x 10 = 80

```
import java.util.Scanner;


class QA7
{
	public static void main (String args[])
	{
		Scanner sc = new Scanner(System.in);
		System.out.println("Enter the number:");
		int num = sc.nextInt();
		int i = 1;
		while (i <= 10)
		{
			int prod = 8 * i;
			System.out.println("8x" +i+ "=" +prod);
			i++;
		}

	}
}
```

8. Write a Java program to display the following pattern.
Sample Pattern :

```
    J     a    v      v   a
    J    a a    v    v   a a
 J  J   aaaaa    V V   aaaaa
  JJ   a      a    V   a      a
```

```
import java.util.*;


class QA8
{
        public static void main(String args[])
        {
                System.out.println("   J    a   v     v  a ");
                 System.out.println("   J   a a   v   v  a a");
                 System.out.println("J  J  aaaaa   V V  aaaaa");
                 System.out.println(" JJ  a     a   V  a     a");
   }
}
```

9. Write a Java program to compute the specified expressions and print the output.
Test Data:
((25.5 * 3.5 - 3.5 * 3.5) / (40.5 - 4.5))
Expected Output
2.138888888888889

```
import java.util.*;


class QA9
{
	public static void main(String args[])
	{
		double out = ((25.5 * 3.5) - (3.5 * 3.5)) / (40.5 - 4.5);
		System.out.println("Output = " +out);
	}
}
```

10. Write a Java program to compute a specified formula.
Specified Formula :
4.0 * (1 - (1.0/3) + (1.0/5) - (1.0/7) + (1.0/9) - (1.0/11))
Expected Output
2.9760461760461765

```
import java.util.*;


class QA10

{

	public static void main(String args[])

	{

		double out = 4.0 * (1 - (1.0/3) + (1.0/5) - (1.0/7) + (1.0/9) - (1.0/11));

		System.out.println("Output = " +out);

	}

}
```

11. Write a Java program to print the area and perimeter of a circle.
Test Data:
Radius = 7.5
Expected Output
Perimeter is = 47.12388980384689
Area is = 176.71458676442586

```
import java.util.Scanner;


class QA10

{

	public static void main (String args[])

	{

		Scanner sc = new Scanner(System.in);

		System.out.println("Enter the radius:");

		double r = sc.nextDouble();

		final double pi = 22.0/7;


		double peri = 2*pi*r;

		double area = pi*r*r;


		System.out.println("Perimeter =" +peri);

		System.out.println("Area =" +area);

	}

}
```

12. Write a Java program that takes three numbers as input to calculate and print the average of the numbers.

```
class QA11
{
	public static void main(String args[])
	{
		Scanner sc = new Scanner(System.in);
		System.out.println("Enter the three numbers:");
		double n1 = sc.nextDouble();
		double n2 = sc.nextDouble();
		double n3 = sc.nextDouble();

		double avg = (n1 + n2 +n3)/3;

		System.out.println("Average of " +n1+ ", " +n2+ " and " +n3+ " " + " = " +avg);
	}
}
```

13. Write a Java program to print the area and perimeter of a rectangle.
Test Data:
Width = 5.5 Height = 8.5
Expected Output
Area is 5.6 * 8.5 = 47.60
Perimeter is 2 * (5.6 + 8.5) = 28.20

```
import java.util.Scanner;

class QA12
{
	public static void main(String args[])
	{
		Scanner sc = new Scanner(System.in);
		System.out.println("Enter width:");
		double w = sc.nextDouble();
		System.out.println("Enter height:");
		double h = sc.nextDouble();

		double area = w*h;
		double peri = 2 * (w + h);

		System.out.println("Area =" +area);
		System.out.println("Perimeter =" +peri);

	}
}
```

14. Write a Java program to print an American flag on the screen.

```
import java.util.*;


class QA13
{


   public static void main(String args[])
    {
       System.out.println("* * * * * * ==================================");
       System.out.println(" * * * * *  ==================================");
       System.out.println("* * * * * * ==================================");
       System.out.println(" * * * * *  ==================================");
       System.out.println("* * * * * * ==================================");
       System.out.println(" * * * * *  ==================================");
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       System.out.println("============================================");
       System.out.println("============================================");
       System.out.println("============================================");
    }
}
```
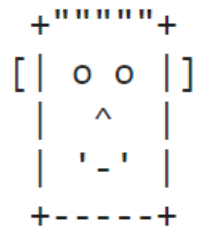

15. Write a Java program to swap two variables.

```
import java.util.Scanner;


class QA15
{
	public static void main(String args[])
	{
		Scanner sc = new Scanner(System.in);
		System.out.println("Enter the first number:");
		int n1 = sc.nextInt();
		System.out.println("Enter the second number:");
		int n2 = sc.nextInt();


		int temp = n1;
		n1 = n2;
		n2 = temp;


		System.out.println("After swapping the given numbers we get: " +n1+ " and "
+n2 );


	}
}
```

16. Write a Java program to print a face.



Expected Output

```
class QA16
{
	public static void main(String args[])
	{
		System.out.print("  +");
		for(int i=0;i<5;i++)
		{
			System.out.print("\"");
		}

		System.out.println("+");
		System.out.println("[ | o o | ]");
		System.out.println("  |  ^  |");
		System.out.println("  | '_' |");
		System.out.print("  +");

		for(int j=0;j<5;j++)
		{
			System.out.print("-");
		}

		System.out.println("+");
	}
}
```

17. Write a Java program to add two binary numbers.
Input Data:
Input first binary number: 10
Input second binary number: 11
Expected Output
Sum of two binary numbers: 101

```
import java.util.*;
class decihexa
{
public static void main(String args[])
{
char a[]={'0','1','2','3','4','5','6','7','8','9','A','B','C','D','E','F'};
Scanner sc=new Scanner(System.in);

int r=0;
String h=" ";

System.out.println("enter the number ");
int n=sc.nextInt();

while(n>0)

{

r=n%16;

h=a[r]+h;

n=n/16;

}

System.out.println("hexadecimal number is"+h);

}

}
```