Assignment No. 1

1. **Assign decimal, octal, hexadecimal values to variables and print.**

```
class Q1
{
	public static void main(String[] args)
	{
		int a = 10;
		System.out.println(a);

		int b = 0XE;
		System.out.println(b);

		int c = 014;
		System.out.println(c);

	}
}
```

2. Assign Unicode value to char variable and print.

```
import java.util.*;

class Q2
{
	public static void main(String[] args)
	{
		char a = 'A';
		System.out.println(a);
		System.out.println(+a);
		System.out.println("----------------------");

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

		char c = 92;
		System.out.println(c);
		System.out.println(+c);
		System.out.println("----------------------");

		char d = '\u0032';
		System.out.println(d);
		System.out.println(+d);
		System.out.println("----------------------");

		char c1 = 064770;
		System.out.println(c1);
```

```
                System.out.println(+c1);
                System.out.println("----------------------");

                char c3 = 0xcdac;
                System.out.println(c3);
                System.out.println(+c3);
                System.out.println("----------------------");

                char c6 = '\ucdac';
                System.out.println(c6);
                System.out.println(+c6);
        }
}
```

3. WAP to access/invoke Static variable and static method.

```
class StaticVarMeth{
	static int a;
	static int b;
	static int sum;
	static int sub;
	static int sum(int a, int b){
		sum = a + b;
		return sum;
	}
	static int sub(int a, int b){
		sub = a - b;
		return sub;
	}
}
class Q3{
	public static void main(String[] args){
		System.out.println("Static Variables:");
		StaticVarMeth.a = 10;
		StaticVarMeth.b = 20;
		System.out.println("a = " +StaticVarMeth.a);
		System.out.println("b = " +StaticVarMeth.b);

		System.out.println("Static Methods:");
		StaticVarMeth.sum(40, 30);
		System.out.println("40 + 30 = " +StaticVarMeth.sum);
		StaticVarMeth.sub(40, 30);
		System.out.println("40 - 30 = " +StaticVarMeth.sub);
	}
}
```

4. WAP to declare static variables of all primitive data types and print

their default value.

```
class StaticBlock
{
	static byte b;
	static short s;
	static int i;
	static long l;
	static float f;
	static double d;
	static char c;
	static boolean bool;
}
class Q4
{
	public static void main(String args[])
	{
		System.out.println(StaticBlock.b);
		System.out.println(StaticBlock.s);
		System.out.println(StaticBlock.i);
		System.out.println(StaticBlock.l);
		System.out.println(StaticBlock.f);
		System.out.println(StaticBlock.d);
		System.out.println(StaticBlock.c);
		System.out.println((int)StaticBlock.c);
		System.out.println(StaticBlock.bool);
	}
}
```

5. WAP to print tables of 1-30 using 2 for loops and also try to print using single for loop.

→ Using 2 for loop:

```
class Q5{
	public static void main(String [] args){
	System.out.println("Tables for 1 to 30: ");
	System.out.println("====================");
	for(int i = 1; i <= 30; i++){

		System.out.println("Table of "+i+":");
		for(int j = 1; j <=10; j++){
			System.out.println(i+ " X " +j+ " = " +i*j);
			}
		System.out.println();
		}
	}
}
```

→ Using single for loop:

```
class Q5_1{
	public static void main(String [] args){
		int j=1;
		for(int i=1; i<=10; i++){
		System.out.println(j+ " X " +i+ " = " +j*i);
			if(i>=10){
				j++;
				i=0;
				System.out.println();
				if(j>30)
				break;
```

```
                    }
                }
            }
        }
```

6. WAP to print tables of 1-30 using a while loop.

```
class Q6{
	public static void main(String[] args){
		int i, j;
		i = 1;
		System.out.println("Table of 1-30: ");
		while(i<=30){
			System.out.println("Table of " +i+ ":");
			j = 1;
			while(j<=10){
				System.out.println(i+ " x " +j+ " = " +i*j);
				j++;
			}
			i++;
			System.out.println();
		}

	}
}
```

7. Try to answer PPT questions covered in online class.

8. WAP to print * patterns using for loop and while loop. (Right angle triangle, Equilateral triangle, K pattern, X pattern

→ Right angle triangle

```
class Q8_1
{
        public static void main (String args[])
        {
           for (int i=1;i<=5;i++)
                {
                  for (int j=1;j<=i;j++){
                  System.out.print("*");
                  }
      System.out.println();
                }
        }
}
```

→ Equilateral triangle

```
class Q8_2
{
        public static void main (String args[]){
      for (int i=0; i<6; i++){

                        for (int k=6-i; k>1; k--){
                                System.out.print(" ");
        }
                                for (int j=0; j<=i; j++ ){
                                        System.out.print("* ");
                                }
```

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

→ K pattern

```
class Q8_3
{
        public static void main (String args[])
        {
        for (int i=0; i<6; i++){
           for (int j=5; j>=i; j-- ){
             System.out.print("* ");
           }
           System.out.println();
        }
        for (int i=0; i<6; i++){
           for (int j=0; j<=i; j++ ){
           System.out.print("* ");
           }
           System.out.println();
        }
           }
}
```

→ X pattern

```
class Q8_4
{
        public static void main (String args[]){
        for (int i=0; i<6; i++)
        {
```

```
                    for (int k=0; k<i; k++)
        {
          System.out.print(" ");
        }
       for (int j=5; j>=i; j-- )
        {
           System.out.print("* ");
        }
      System.out.println();
    }

    for (int i=0; i<6; i++)
    {
                    for (int k=6-i; k>1; k--)
       {
          System.out.print(" ");
       }
       for (int j=0; j<=i; j++ )
       {
          System.out.print("* ");
       }
    System.out.println();
    }
       }
}
```