

LOGIC SESSION ASSIGNMENT - 2

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Q1. Find factorial of a number using Recursive function

CODE

```
// Find factorial of a number using Recursive function

import static java.lang.System.out;
public class code1_factorial {
    static int fact(int num)
    {
        if(num<1)
            return 1;
        return num*fact(--num);
    }
    public static void main(String[] args) {
        // TODO Auto-generated method stub
        out.println(fact(8));
    }
}
```

Q2. Find Fibonacci series in following pattern

1

2 3

5 8 13

CODE

```
//Find Fibonacci series in following pattern
//1
//2 3
//5 8 13

import static java.lang.System.out;
public class code2_FibPattern {
    public static void main(String[] args) {
        // TODO Auto-generated method stub
        int n = 5; //no. of rows
        int pt = 0, ct = 1, nt = 0;

        for(int i = 1; i<=n; i++)
        {
            for(int j = 1; j<=i; j++)
            {
                nt = ct + pt;
                out.print(nt+" ");
                pt = ct;
                ct = nt;
            }
            out.println();
        }
    }
}
```

Q3a. Solve following pattern

3
323
32123
323
3

CODE

```
//Solve following pattern
// 3
// 323
//32123
// 323
// 3
import static java.lang.System.out;
public class code3_a_Pattern1 {
    public static void main(String[] args) {
        // TODO Auto-generated method stub

        for(int i = 3; i>=1; i--)
        {
            for(int s = i-1; s>=1; s--)
                out.print(" ");
            for(int j = 3; j>=i; j--)
                out.print(j);
            for(int k = i+1; k<=3; k++)
                out.print(k);
            out.println();
        }
        for(int p = 2; p<=3; p++)
        {
            for(int s = 1; s<p; s++)
                out.print(" ");
            for(int r = 3; r>=p; r--)
                out.print(r);
            for(int q = p+1; q<=3; q++ )
                out.print(q);
            out.println();
        }
    }
}
```

Q3b. Solve following pattern

**
*

CODE

```
/**
/**
/**
import static java.lang.System.out;
public class code3_b_Pattern2 {

    public static void main(String[] args) {
        // TODO Auto-generated method stub

        for(int i = 3; i>=1; i--)
        {
            for(int j = 1; j<=i; j++)
            {
                out.print("*");
            }
            out.println();
        }
    }
}
```

Q4. Print binary of a number in reverse order eg. Input 4 O/P 0 0 1

CODE

```
//Print binary of a number in reverse order eg. Input 4 O/P 0 0 1
import static java.lang.System.out;
import java.util.Scanner;
public class code4_binRev {
    public static void main(String[] args) {
        // TODO Auto-generated method stub
        int num = 10; //user input
        int temp = num;

        while (temp!=0)
        {
            out.print(temp%2);
            temp = temp/2;
        }
    }
}
```