Q.1) Find factorial of a number using Recursive function

```
import java.util.*;
class Main {
   public static void main(String[] args) {
     System.out.println("Enter number for factorial: ");
     Scanner sc = new Scanner(System.in);
     int num=sc.nextInt();
     int factorial = fact(num);
     System.out.println("Factorial of "+num+" is "+factorial);
   }
   public static int fact(int n)
   {
      int f;
      if(n==1)
         return 1;
      f=n*fact(--n);
      return f;
   }
}
```

Output:
Enter number for factorial:
5
Factorial of 5 is 120

Q.2) Find Fibonacci series in following pattern
1
2 3
5 8 13

```
class Main {
   public static void main(String[] args) {
     int i,j,f1=0,f2=1,f3=0;
     for(i=1;i<=3;i++)
     {
        for(j=1;j<=i;j++)
        {
           f3=f1+f2;
           System.out.print(f3+" ");
           f1=f2;
           f2=f3;
        }
        System.out.println();
     }
   }
}
```

Q.3) Solve following pattern
3
323
32123
323
3

```
class Main {
   public static void main(String[] args) {
      int i,j,sp,r,n=3;
      for(i=3;i>=1;i--)
      {
         for(sp=i-1;sp>=1;sp--)
            System.out.print(" ");
         for(j=3;j>=i;j--)
            System.out.print(j);

         System.out.println();
      }


   }
}
```

```
***
**
*
class Main {
   public static void main(String[] args) {
     int i,j;
     for(i=1;i<=3;i++)
     {
        for(j=3;j>=i;j--)
        {
           System.out.print("*");
        }
        System.out.println();
     }
   }
}
```

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

```
import java.util.*;
class Main {
   public static void main(String[] args) {
      Scanner sc = new Scanner(System.in);
      System.out.println("Enter a number: ");
      int num=sc.nextInt();
      int n=num;
      int r;
      System.out.print("\n\nReverse binary number of "+num+" is ");
      while(n!=0)
      {
         r=n%2;
         System.out.print(r);
         n=n/2;
      }
   }
}
```

Output:

Enter a number:
4

Reverse binary number of 4 is 001