① write a program to reverse a word using loop? (Not to use in buit functions).

CODE:

```
import java. util. scanner;
public class Reverse string {
    public static void main (string [] args) {
        scanner input = new Scanner ( system. in);
        System. out. print (" Enter a word: ");
        String name = input. next line ();
        String empty = "" ;
        int len = name. length ();
        for (int i = len-1 ; i >=0; i--) {
            empty = empty + name. char At (i);
        }
        system. out. println (" Reverse word: " +
    empty);
        input. close ();
    }
}
```

OUTPUT:

Enter a word : Hello

Reversed word : olleh.

2) write a program to check the entered username is valid or not. Get both the inputs from the user.

CODE:

```
import. java. util. Scanner;
public class Validate User Name {
  public static void main (string [] args) {
      Scanner input = new
Scanner (system. in);
      System. out.print (" Enter the first string : " );
      String s1 = input. next line ();
      System. out. print (" Enter the second string : ");
      String s2 = input. next line ();
      if (s1 .equal (s2)) {
        system. out. print ln (" user name Invalid ");
      }
      input. close ();
  }
}
```

OUTPUT:

```
Enter the first string : Hello
Enter the second string : Hell oh
user name Invalid
```

3) write a program to reverse a number using loop? (Get the input from user).

CODE:

```
import java.util. scanner;
public class Reverse Number {
    public static void main(string[] args){
        scanner input = new
scanner input (system.in);
        system.out.print(" Enter a number to reverse:");
        system.out print(" Enter a number to reverse

          int n = input.nextInt();
          int rev =0;
          while (n!=0) {
            int rem =n % 10;
            rev = rev * 10 + rem;
            n = n/10;
        }
    System. out.print (" Reversed number ; "+rev);
        input. close();
    }
}
```

OUTPUT:

Enter a number to reverse : 12345

Reversed number : 54321.

4) write a program to find whether the person is eligible for vote or not. And if that particular person is not eligible, then print how many years are left to be eligible.

CODE:

```
import java.util.scanner;
public class voting Eligibility{
    public static void main (string[] args){
        scanner input = new scanner(system.in);
        System.out.print(" Enter your age: ");
        int age = input.nextInt();
        if (age > 18){
            system.out.println(" your are eligible
    to vote.");
        } else if (age <=0){
            system.out.print(" Enter the age
    correctly.");
        } else{
            system.out.println(" your are allowed
    to vote after " +(18-age)+ "years.");
        }
        input.close();
    }
}
```

OUTPUT:

```
Enter your age: 19
you are eligible to vote.
```

5) Find the LCM and GCD of n number?

CODE:

```
import java.util.Scanner;
public class ak
{
   static int gcd (int a, int b)
   {
     if a==0)
       return b;
     return gcd (b%.a, a);
   }
   static int findgcd (int a[], int n)
    {
     int res = = a[0];
     for(int i=0; i<n; i++)
     {
       res = gcd (res, a[i]);
       if (res ==1)
         return 1;
      }
      return res;
   }
   public static void main (String [] args )
{
    Scanner input = new
Scanner (System.in);
int n = input.nextInt ();
```

```
    int a[] = new int [n];
    for (int i = 0; i<n; i++)
{
    a[i] = input.nextInt();
}
 System.out.println (findgcd (a,n));
 int gcd = findgcd (a,n);
 int mul = 1;
 for (int i=0, i<n; i++)
{
   mul = mul * a[i];
 }
 int lcm = mul / gcd;
 System. out.println (lcm);
}
}
```

OUTPUT:

2

34

43

1

1462.

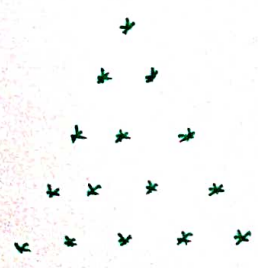
⑥ write a program to print Right Triangle star pattern.

CODE:

```
import java.util.Scanner;
public class star pattern{
   public static void main(String[] args){
      Scanner input=new
Scanner(System.in);
      System.out.print(" Enter the number of rows: ");
      int n = input.nextInt();
      for(int i=1; i<=n; i++){
         for(int j=1; j<=n-i, j++){
            System.out.print(" ");
         }
         for(int k=1; k<=i; k++){
           system.out.print("** ");
         }
         system.out.println();
      }
       input.close();
   }
}
```

OUTPUT:

Enter the number of rows: 5



④ write a program to print the below pattern?

CODE:

```
import java.util.Scanner;
public class Pascal Triangle {
    public static void main (String[] args

        Scanner input = new
    Scanner (System.in);
        System.out.print (" Enter the number of rows: ");
        int n = input.nextInt();
        for (int i=0; i<n; i++){
            int a=1;
            for (int s=0 ; s<n-i-1; s++){
                System.out.print(" ");
            }
           for (int j=0; j<=i; j++){
              System.out.print(a+ " ");
              a= a*(i-j)/(j+1);
           }
            System.out.println();
           }
           input close ();
      }
   }
```

OUTPUT:

```
Enter the number of rows: 5
    1
   1 1
  1 2 1
 1 3 3 1
1 4 6 4 1
```

⑧ write a program using function to calculate the simple interset. suppose the customer is a senior citizen. He is being offered 12 percent rate of interset; for all other customers, the ROI is 10 percent.

CODE:

```
import java.util.Scanner;
public class IntersetCalculator{
    public static void main(String[] args){

        Scanner input=new
Scanner(System.in);
        System.out.print("Enter the principle
amount:");
        double principle = input.nextDouble();
        system.out.print("Enter the number of years;)
        int years = input.nextInt();
        System.out.print("Are you a senior citizen?(y/n):");
        char isSenior = input.next().charAt(0);
        double interset Rate = (isSenior=='y')
? 0.12 : 0;10;
        double interset =(principle * years * interest Rate);
        system.out.printf("calculated interset : %.2f/n", interst);
        input.close();
    }
}
```

OUTPUT:

Enter the principal amount: 200000
Enter the number of years: 3
Are you a senior citizen? (y/n): n
Calculated interset: 60000.00

① Java Program to Find Even sum of Fibonacci Series till number N?

CODE:

```
import java.util.scanner;
public class Evensum Fibonacci{
    public static void main (string[] args) {
        Scanner input = new
Scanner ( System.in);
        system.out.print ("Enter the value of n: ");
        int n= input.nextInt ();
        if (n<=0){
            system.out.println("The value of n must be positive);
                return;
            }
        int a1= 0, a2 = 1, a3;
        int[] a= new int[n* 2+1];
        for(int i=0; i<a.length; i++){
            if (i==0){
                a[i]== a1;
            } else if (i==1){
                a[i] = a2;
            } else{
                a3 = a1 + a2;
                a[i] =a3;
                a1 = a2;
                a2 = a3;
        }
    }
```

```
        system.out.print(" Fibonacci series: ");
        for (int 0; i<a length; i++){
            System.out. print(a [i] + "" );
        }
        int sum = 0;
        for (int i =0; i <a. length; i += 2){
            sum + = a[i] ;
        }
        system.out.println ("\nsum of Fibonacci numbers
at even indies;" + sum);
        input. close();
    }
}
```

OUTPUT:

Enter the value of n: 4

Sum of fibonacci numbers at even-indices : 33.

10. write a program to print the numbers from M to N by skipping k numbers in between?

CODE:

```
import java.util. scanner;
public class NumberPrinter {
    public static void main (String[]args) {
        Scanner input =new Scanner (system.in);
        system.out. print ("Enter m: ");
        int m = input.nextInt();
```

```
        System.out.print(" Enter n:");
        int n= input .nextInt();
        System.out.print(" Enter k :");
        int k= input. nextInt();
        for(int i=m; i<=n; i+=(k+1)) {
            System. out. print(i + "");
        }
        input. close();
    }
}
```

OUTPUT:

```
Enter m: 50
Enter n: 100
Enter k : 7
50 58 66 74 82 90 98
```