Number System:

▼ Numbers List

Numbers	Examples
1) Armstrong's Number	153= $1^3+5^3+3^3$ = 153
2) Disarium Number	175= $1^1+7^2+5^3$ = 175
3) Xylem and Phloem	34326 = (3+6) =9= (4+3+2) →Xylem 173156= (1+6) =7!= 16 =(7+3+1+5+6) →Phloem
4) Fibonacci	0 1 1 2 3 5 8 13 .....
5) Happy number	94= 9^2+4^2 = 97 = 9^2+7^2 = 130 =$1^2+3^2+0^2$=10= 1^2+0^2 = 1
6) Palindromic number	121 = 121 , 3663=3663
7) Perfect number	6 = 1+2+3(Perfect divisors) =6
8) Strong or Special numbers	145 = 1! + 4! + 5! = 145
9) Prime numbers	2,3,5,7,11...
10) Spy numbers	132 = (1+3+2) =6= (1*3*2)

1. Write a Java program to read the **Radius of a circle** from the user and print the area and circumference of that circle.

   ▼ Ans

```
public static void main(String o)
  {
    Scanner sc=new Scanner(System.in);
    System.out.println("Enter the Radies:- ");
    double r=sc.nextDouble();sc.close();
    double area=3.143*r*r;
    double cir=2*3.143*r;

    System.out.println("Radies is:- "+r);
    System.out.println("Area is:- "+area);
    System.out.println("Circumference :- "+cir);
  }
```

2. WJPT read two integer value from the input and perform **all the Arithmetic operation** and display the result.

   ▼ Ans

```
public static void main(String arg[])
{
  Scanner kd=new Scanner(System.in);
  System.out.println("Enter the two integer value= ");
  int x=kd.nextInt();int y=kd.nextInt();

  System.out.println("Sum of two number is "+(x+y));
  System.out.println("Differece of two number is  "+(x-y));
  System.out.println("Product of two number is  "+x*y);
  System.out.println("Divison two integer is= "+x/y);
  System.out.println("Modulus two integer is= "+x/y);
}
```

3. WJPT calculate the **simple interest and compound interest** by taking the from the use.

▼ Ans

```
//si=ptr/100  (only interest amt)
//ci=p*(1+(r/100),power t)-p  (only interest amt)
public static void main(String arg[])
{
  Scanner kb=new Scanner(System.in);

  System.out.println("Enter the principle amount=");
  double p=kb.nextDouble();
  System.out.println("Enter the rate of interest=");
  double r=kb.nextDouble();
  System.out.println("Enter the time in years=");
  double t=kb.nextDouble();

  double si=(p*t*r)/100;
  double ci=p*(Math.pow(1+r/100,t));

  System.out.println("The Simple Interest is="+si);
  System.out.println("The Compound Interest is="+ci);
}
```

4. WJPT read the **side of square** from the user and print the area and perimeter.

▼ Ans

```
public static void main(String arg[])
  {
   Scanner kd=new Scanner(System.in);
   System.out.println("Enter the Side of the Square= ");
   double r=kd.nextInt();
   System.out.println("Area of the Sqare= "+(3.142*r*r));
   System.out.println("Perimeter of the Sqare= "+(4*r));
  }
```

5. WJPT the length and breadth of **Rectangle** and print the area and perimeter.

▼ Ans

```
public static void main(String arg[])
  {
   Scanner kd=new Scanner(System.in);
   System.out.println("Enter the Length and Breadth of the Rectangle= ");
   int l=kd.nextInt(); int b=kd.nextInt();
   System.out.println("Area of the Rectangle= "+(l*b));
   System.out.println("Perimeter of the Rectangle= "+2*(l+b));
  }
```

6. WJPT the temperature in terms of **Celsius** and print the equivalent temperature in terms of **Fahrenheit**.

▼ Ans

```
public static void main(String arg[])
  {
   Scanner kd=new Scanner(System.in);
   System.out.println("Enter the temperature in terms of Celsius= ");
```

```
   double c=kd.nextDouble();

      System.out.println("Temperature in terms of Fehrenheit is= "+((c*1.8)+32));
  }
```

7. WJPT read the height and weight and calculate and print the **BMI (Body mass index)**.

   ▼ Ans

```
//BMI(Body Mass Index) = Weigth/(Height*Height) in kg/m*m
public static void main(String arg[])
  {
   Scanner kd=new Scanner(System.in);
   System.out.println("Enter your Weight in kg ");
   double w=kd.nextDouble();
   System.out.println("Enter your Height in M ");
   double h=kd.nextDouble();

   System.out.println("Your BMI is "+(w/(h*h))+" in Kg/M2");
  }
```

8. WJPT read input from user whether they give **positive and negative value** that should be only in **positive output**.

   ▼ Ans

```
public static void main(String arg[])
  {
   Scanner kd=new Scanner(System.in);
   System.out.println("Enter the integer value ");
   int x=kd.nextInt();

    if(x<0)
         x=x*-1;

   System.out.println("Your Entered value is "+x);
  }
```

9. WJPT read two integer value from the user and print the **biggest of one**.

   ▼ Ans

```
public static void main(String arg[])
  {
   Scanner kd=new Scanner(System.in);
   System.out.println("Enter the Two Diferent value ");
   int x=kd.nextInt();int y=kd.nextInt();
   int big=x;
    if(y>big)
        big=y;
        System.out.println("Biggest value is "+big);
  }
```

10. WJPT read three integer value from the user and print the **biggest among three number**.

▼ Ans

```
public static void main(String arg[])
  {
   Scanner kd=new Scanner(System.in);
   System.out.println("Enter the Two Diferent value ");
   int x=kd.nextInt();int y=kd.nextInt();int z=kd.nextInt();
   int big=x;

        if(y>big)
        big=y;

        if(z>big)
        big=z;

        System.out.println("Biggest value is "+big);
  }
```

11. WJPT to print user entered value is **negative or positive**.

▼ Ans

```
public static void main(String arg[])
  {
   Scanner kd=new Scanner(System.in);
   System.out.println("Enter the Integer value ");
        int x=kd.nextInt();

      if(x>-1)
            System.out.println("Entered the Integer value is  "+"POSITIVE");
       else
            System.out.println("Entered the Integer value is "+"NEGATIVE");
  }
```

12. WJPT print user entered number **even or odd.**

▼ Ans

```
public static void main(String arg[])
  {
   Scanner kd=new Scanner(System.in);
   System.out.println("Enter the Integer value ");
        int x=kd.nextInt();sc.close();

      if(x%2==0)
            System.out.println("Entered the Integer value is  "+"EVEN");
       else
            System.out.println("Entered the Integer value is "+"ODD");
   }
```

13. WJPT read two integer value from the user print those value are **equal are not**.

▼ Ans

```
public static void main(String arg[])
  {
```

```
  Scanner kd=new Scanner(System.in);
  System.out.println("Enter the two digit value= ");
  int x=kd.nextInt(); int y=kd.nextInt();sc.close();
    if(x==y)
    System.out.println("Entered two digit value"+"is EQAUL");
  else
    System.out.println("Entered two digit value"+"is not EQAUL");
  }
```

14. WJPT print **biggest among three double values** using simple if.

▼ Ans

```
public static void main(String arg[])
  {
   Scanner kd=new Scanner(System.in);
   System.out.println("Enter the Two Diferent value ");
   double x=kd.nextInt();double y=kd.nextInt();double z=kd.nextInt();
   double big=x;

        if(y>big)
        big=y;

        if(z>big)
        big=z;

        System.out.println("Biggest value is "+big);
  }
```

15. WJPT print **smallest among three integer** using simple if.

▼ Ans

```
public static void main(String arg[])
  {
   Scanner kd=new Scanner(System.in);
   System.out.println("Enter the Three integer value ");
   int x=kd.nextInt();int y=kd.nextInt();int z=kd.nextInt();
   int small=x;

        if(y<small)
        small=y;

        if(z<small)
        small=z;

        System.out.println("Smallest value is "+Small);
  }
```

16. WJPT enter the age of a person and print, he is **eligible or not (for voting)**.

▼ Ans

```
public static void main(String arg[])
  {
  Scanner kd=new Scanner(System.in);
  System.out.println("Enter the AGE of the person= ");
```

```
  int x=kd.nextInt();

     if(x>18)
      System.out.println("THIS PERSON IS EIGIBLE FOR VOTING");
    else
       System.out.println("THIS PERSON NOT EIGIBLE FOR VOTING");}}
   }
```

17. WJPT read the **distance in terms centimeter** and print same in terms of **inches, feet, meter**.

    ▼ Ans

18. WJPT read one integer valve from user and print that integer is a **special two digit number or not**.

    ▼ Ans

```
public static void main(Object o)
  {
    Scanner sc=new Scanner(System.in);
    System.out.println("Enter the integer value:- ");
    int x=sc.nextInt();sc.close();
    int d1=x/10;
    int d2=x%10;
    int sum=d1+d2+d1*d2;
    if(sum==x)
      System.out.println(x+" is Special two digit number");
    else
      System.out.println(x+" is not special two digi number");
  }
```

19. WJPT print user entered integer number is **Negative or positive** by using **Conditional Operator**.

    ▼ Ans

```
public static void main(Object o)
  {
    Scanner sc=new Scanner(System.in);
    System.out.println("Enter the integer value:- ");
    int x=sc.nextInt();sc.close();

    String y=(x>-1)?"positive":"Negative";
    System.out.println("Enter value is:"+y);
  }
```

20. WJPT **biggest among three integer** by using **Conditional operator**.

    ▼ Ans

```
public static void main(String arg[])
  {
    Scanner sc=new Scanner(System.in);
    System.out.println("Enter the integer value:- ");
    int x=sc.nextInt();int y=sc.nextInt();int z=sc.nextInt();sc.close();

    int big=(x>y)&&(x>z)?x:(y>z)?y:z;
```

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

21. WJPT to check user entered integer is **divisible by 5 or not**.

▼ Ans

```
public static void main(String arg[])
  {
  Scanner kd=new Scanner(System.in);
  System.out.println("Enter an integer value= ");
  int x=kd.nextInt();

      String m=(x%5==0)?"IS":"IS NOT";
  System.out.println("THIS NUMBER "+m+" DIVISIBLE BY 5");
   }
```

22. WJPT **smallest among two integer** by using **Conditional operator**.

▼ Ans

```
public static void main(String arg[])
{
Scanner kd=new Scanner(System.in);
System.out.print("Enter the Three value= ");
int a=kd.nextInt();int b=kd.nextInt();int c=kd.nextInt();sc.close():
int z=(a<b&&a<c)?a:(b<c)?b:c;
    System.out.println("Smallest value is "+z);
}
```

23. WJPT biggest **digit of two digit integer number.**

▼ Ans

```
public static void main(String arg[])
{
Scanner kd=new Scanner(System.in);
System.out.print("Enter the Three value= ");
int a=kd.nextInt();sc.close():
int d1=x/10,d2=x%10;

int z=(d1>d2)?&&d1:d2;
    System.out.println("Biggest value is "+z);
}
```

24. WJPT three **subject marks of a student** and print the result is either **Pass or Fail**.

▼ Ans

```
---------Method->1------------
public static void main(Object o)
  {
    Scanner sc=new Scanner(System.in);
    System.out.println("Enter the all subject marks:- ");
```

```
    int p=sc.nextInt();
    int c=sc.nextInt();
    int m=sc.nextInt();
    int b=sc.nextInt();
    sc.close();

    if(p<35||c<35||m<35||b<35)
      System.out.println("Fail");
    else
      System.out.println("Pass");
  }
```

25. WJPT print user entered integer **digit is or number**.

▼ Ans

```
public static void main(Object o)
  {
    Scanner sc=new Scanner(System.in);
    System.out.println("Enter the didgit:- ");
    int n=sc.nextInt();
    sc.close();

    if(x<=9 && x>=-9)
      System.out.println("Digit");
    else
      System.out.println("Number");

    or

    if(x<=9 || x>=-9)
      System.out.println("Number");
    else
      System.out.println("Digit");
  }
```

26. WJPT print three integer value from user and print **biggest among those three integer.**

▼ Ans

```
public static void main(Object o)
  {
    Scanner sc=new Scanner(System.in);
    System.out.println("Enter the three values:- ");
    int x=sc.nextInt();
    int y=sc.nextInt();
    int z=sc.nextInt();
    sc.close();
    if(x>y && x>z)
      System.out.println(x+" is Biggest");
    else if(y>z)
      System.out.println(y+" is Biggest");
    else
      System.out.println(z+" is Biggest");
  }
```

27. WJPT print the user entered **month number is Valid or Invalid**.

▼ Ans

```
public static void main(Object o)
  {
    Scanner sc=new Scanner(System.in);
    System.out.println("Enter the three values:- ");
    int x=sc.nextInt();
    sc.close();
    if(x>=1 && x<=12)
      System.out.println("Valid month number");
    else
      System.out.println("Invalid month number");
  }
```

28. WJPT read one integer value from the user and print it is a **two digit number or not**.

▼ Ans

```
public static void main(Object o)
  {
    Scanner sc=new Scanner(System.in);
    System.out.println("Enter the integer values:- ");
    int x=sc.nextInt();
    sc.close();
    if(x>=10&&x<=99||x<=-10&&x>=-99)
      System.out.println("Two digit number");
    else
      System.out.println("Not two digit number");
  }
```

29. WJPT read the month number from user and print the **how many days present in that month**.

▼ Ans

```
public static void main(Object o)
  {
    Scanner sc=new Scanner(System.in);
    System.out.println("Enter the three values:- ");
    int x=sc.nextInt();
    sc.close();

    if(x==1||x==3||x==5||x==7||x==8||x==10||x==12)
      System.out.println("31-days");
    else if(x==4||x==6||x==9||x==11)
      System.out.println("30-day");
    else if(x==2)
      System.out.println("28 or 29 days");
    else
      System.out.println("Inavlid Input");
  }
```

30. WJPT read one integer value from the user and print that integer is a **three digit number or not**.

▼ Ans

```
public static void main(Object o)
  {
    Scanner sc=new Scanner(System.in);
    System.out.println("Enter the three values:- ");
    int x=sc.nextInt();
    sc.close();
    if(x>99&&x<1000||x<-99&&x>-1000)
      System.out.println("Three digit");
    else
      System.out.println("Not Three Digit");
  }
```

31. WJPT read **month number** from the user and print **corresponding month name**.

    ▼ Ans

```
public static void main(String arg[])
{
  Scanner kd=new Scanner(System.in);
  System.out.println("Enter Month number= ");
  int mm=kd.nextInt();

  switch (mm)
  {
    case 1: System.out.println("JANUARY");
        break;
    case 2: System.out.println("FEBRUARY");
        break;
    case 3: System.out.println("MARCH");
        break;
    case 4: System.out.println("APRIL");
        break;
    case 5: System.out.println("MAY");
        break;
    case 6: System.out.println("JUNE");
        break;
    case 7: System.out.println("JULY");
        break;
    case 8: System.out.println("AUGUST");
        break;
    case 9: System.out.println("SEPTEMBER");
        break;
    case 10: System.out.println("OCTOBER");
        break;
    case 11: System.out.println("NOVEMBER");
        break;
    case 12: System.out.println("DECEMBER");
        break;
    default : System.out.println("INVALID-DAY NUMBER");
  }
}
```

32. WJPT read the **Four subject marks of a student** and print their result line **DISTINCTION if the percentage is greater than or equal to 85**, print **FIRST CLASS if percentage greater then or equal to 60**, print **SECOND CLASS if percentage is greater than or equal to 50 otherwise print PASS**. [note: If he has **scored less then 35** in any one subject , print **FAIL**].

    ▼ Ans

```
public static void main(String arg[])
{
  Scanner kd=new Scanner(System.in);
  System.out.println("Enter the marks of the student Acorrding to Subjects ie physics Chemistry Maths ");
   int p=kd.nextInt();
   int c=kd.nextInt();
   int m=kd.nextInt();
   int b=kd.nextInt();sc.close();

    if(p>-1 && p<101 && c>-1 && c<101 && m>-1 && m<101 && b>-1 && b<101)
       {
             int po=p+c+m+b;
             double pi=po/400.0;
             double per=pi*100.0;

          if(p>=0&&p<35 || c>=0&&c<35 || m>=0&&m<35 || b>=0&&b<35)
             {

              System.out.println("PERCENTAGE IS  "+per);
              System.out.println("FAIL");
             }
          else if(per>=85&&per<=100)
             {
                System.out.println("PERCENTAGE IS  "+per);
                System.out.println("Distinction");
             }
          else if(per>=60&&per<85)
             {
                System.out.println("PERCENTAGE IS  "+per);
                System.out.println("FIRST CLASS");
             }
          else if(per>=50&&per<60)
            {
              System.out.println("PERCENTAGE IS  "+per);
              System.out.println("SECOND CLASS");
             }
          else
             {
              System.out.println("PERCENTAGE IS  "+per);
              System.out.println("pass");
             }
   }
   else
          {
              System.out.println("INVALID INPUT");
          }
}
```

33. WJPT read the **three(double type)** value from the user and **print smallest**.

▼ Ans

```
public static void main(Object o)
  {
    Scanner sc=new Scanner(System.in);
    System.out.println("Enter the three values:- ");
    double x=sc.nextDouble();
    double y=sc.nextDouble();
    double z=sc.nextDouble();
    sc.close();
    double m=x<y&&x<z?x:(y<z)?y:z;
```

```
    System.out.println("Enter value "+m+" is the Smallest");
  }
```

34. WJPT read one integer value from the user **print SANJU**, if number is **divisible by 3**, print **GITHA**. if number is **divisible by 5**, print **SANJU WEDS GITHA**, if **number is divisible by 3,5**, otherwise **print breakup.**

▼ Ans

```
public static void main(String arg[])
{
  Scanner kd=new Scanner(System.in);
  System.out.print("Enter the integer value= ");
  int x=kd.nextInt();sc.close();
    if(x%3==0&&x%5==0)
       System.out.println("SANJU WEDS GITHA");
    else if(x%3==0)
       System.out.println("SANJU");
    else if(x%5==0)
       System.out.println("GITHA");
    else
       System.out.println("BREAK-UP");
}
```

36. WJPT read **three distinct integer value** from the user and print **Middle value**.

▼ Ans

```
public static void main(String arg[])
{
  Scanner kd=new Scanner(System.in);
  System.out.println("Enter the three distinct integer value= ");
    int x=kd.nextInt();int y=kd.nextInt();int z=kd.nextInt();sc.close();

    if(x>y&&x<z || x>z&&x<y)
    System.out.println("Middle value= "+x);
  else if (y>x&&y<z || y>z&&y<x)
     System.out.println("Middle value= "+y);
  else
      System.out.println("Middle value= "+z);
}
```

38. WJPT read a **day number** from the user and print corresponding **day name** by using switch case?

▼ Ans

```
public static void main(String arg[])
{
Scanner kd=new Scanner(System.in);
System.out.println("Enter day number= ");
int dd=kd.nextInt();sc.close();

switch (dd)
{
case 1: System.out.println("SUNDAY");
        break;
```

```
case 2: System.out.println("MONDAY");
        break;
case 3: System.out.println("TUESDAY");
        break;
case 4: System.out.println("WEDNESDAY");
        break;
case 5: System.out.println("THURSDAY");
        break;
case 6: System.out.println("FRIDAY");
        break;
case 7: System.out.println("SATURDAY");
        break;
default : System.out.println("INVALID-DAY NUMBER");
}
}
```

39. WJPT read the **month number** from user and print the corresponding **month name** by using switch case?

▼ Ans

```
public static void main(String arg[])
{
Scanner kd=new Scanner(System.in);
System.out.println("Enter Month number= ");
int mm=kd.nextInt();

switch (mm)
{
case 1: System.out.println("JANUARY");
        break;
case 2: System.out.println("FEBRUARY");
        break;
case 3: System.out.println("MARCH");
        break;
case 4: System.out.println("APRIL");
        break;
case 5: System.out.println("MAY");
        break;
case 6: System.out.println("JUNE");
        break;
case 7: System.out.println("JULY");
        break;
case 8: System.out.println("AUGUST");
        break;
case 9: System.out.println("SEPTEMBER");
        break;
case 10: System.out.println("OCTOBER");
        break;
case 11: System.out.println("NOVEMBER");
        break;
case 12: System.out.println("DECEMBER");
        break;
default : System.out.println("INVALID-DAY NUMBER");
}
}
```

40. WJPT read **month number** from the user and print corresponding **how many days present in that month number** by using switch case ?

▼ Ans

```
public static void main(String arg[])
{
  Scanner kd=new Scanner(System.in);
  System.out.println("Enter Month number= ");
  int mm=kd.nextInt();sc.close();
    switch (mm)
    {
    case 1:
    case 3:
    case 5:
    case 7:
    case 8:
    case 10:
    case 12:System.out.println("31days");
                  break;
    case 2: System.out.println("28days or 29days");
        break;
    case 4:
    case 6:
    case 9:
    case 11:System.out.println("APRIL conatins 30days");
            break;
    default : System.out.println("INVALID-DAY MONTH");
    }
}
```

41. WJPT read the **month name** from the user and print corresponding **month number** by using switch case ?

▼ Ans

```
public static void main(String arg[])
{
  Scanner kd=new Scanner(System.in);
  System.out.println("Enter Month name= ");
  String mname=kd.next();kd.close();
  mname=mname.toLowerCase();

  switch (mname)
  {
  case "january": System.out.println(1);
        break;
  case "february": System.out.println(2);
        break;
  case "march": System.out.println(3);
        break;
  case "april": System.out.println(4);
        break;
  case "may": System.out.println(5);
        break;
  case "june": System.out.println(6);
        break;
  case "july": System.out.println(7);
         break;
  case "august": System.out.println(8);
          break;
  case "september": System.out.println(9);
        break;
  case "october": System.out.println(10);
```

```
        break;
  case "november": System.out.println(11);
          break;
  case "december": System.out.println(12);
          break;
  default : System.out.println("INVALID-month");
    }
}
```

42. WJPT read the **c**haracter from the user and print it is VOWEL or CONSONANT by using switch case.

    ▼ Ans

```
public static void main(String arg[])
{
  Scanner kd=new Scanner(System.in);
  System.out.println("Enter the Alphabet= ");
  String m=kd.next();kd.close();
  m=m.toLowerCase();

  switch (m)
  {
  case "a":
  case "e":
  case "i":
  case "o":
  case "u": System.out.println("VOWEL");
            break;
  default : System.out.println("CONSONANT");
          break;
  }
}
```

43. WJPT read two integer value and one Arithmetic operator as a character and perform corresponding ?

    ▼ Ans

```
public static void main(String arg[])
{
  Scanner kd=new Scanner(System.in);
  System.out.println("Enter the two integer value= ");
  int x=kd.nextInt();
  int y=kd.nextInt();kd.close();

  System.out.println("Enter the operator= ");
  char ch=kd.next().charAt(0);

  switch (ch)
  {
  case '+': System.out.println(x+y);
  break;
  case '-': System.out.println(x-y);
  break;
  case '*': System.out.println(x*y);
  break;
  case '/': System.out.println(x/y);
  break;
  case '%': System.out.println(x%y);
  break;
```

```
  default : System.out.println("INVALID-INPUT");
  }
}
```

35. WJPT read the year from the user and print that year is **Leap-year or not.**

▼ Ans

```
public static void main(String[] args)
  {
    Scanner sc=new Scanner(System.in);
    int x=sc.nextInt();sc.close();

    if(x%400==0|| x%4==0 && x%100!=0)
      System.out.println("leap year");
    else
      System.out.println("Not Leap year");
```

37. WJPT read **Date** from the user print the **Date is valid or invalid**.

▼ Ans

```
public static void main(String arg[])
{
  Scanner kd=new Scanner(System.in);
  System.out.println("Enter the date in the format of(DD MM YYYY = ");
  int dd=kd.nextInt();int mm=kd.nextInt();int yy=kd.nextInt();sc.close();

    if(dd<1 || dd>31 || mm<1 || mm>12 || yy<1)
     {
     System.out.println("INVALID-DATE");
     }
  else if((mm==4||mm==6||mm==9||mm==11)&& dd>30)
     {
     System.out.println("INVALID-DATE");
     }
  else if(mm==2&&dd>29)
     {
     System.out.println("INVALID-DATE");
     }
  else if(mm==2 && (yy%400==0||yy%4==0&&yy%100!=0)==false && dd>28)
     {
     System.out.println("INVALID-DATE");
     }
  else
     {
     System.out.println("DATE IS VALID");
     }
}
```

44. WJPT print your **name nth times**.

▼ Ans

```
public static void main(String arg[])
{
   Scanner kd=new Scanner(System.in);
```

```
   System.out.println("Enter the how many times you want your number= ");
      int n=kd.nextInt();kd.close();
            for(int i=1;i<=n;i++)
            {
              System.out.println("manu");
            }
}
```

45. WJPT calculate **Sum of first n natural numbers**. I/P= 5 O/P= 1+2+3+4+5= 15

▼ Ans

```
*defination:"Natural numbers are the numbers that start from 1 and end at infinity"
example=1,2,3,,....n*/
public static void main(String arg[])
  {
    Scanner kd=new Scanner(System.in);
    System.out.println("Enter Natural number= ");
    int x=kd.nextInt();kd.close();
      int sum=0;
          for(int i=1;i<=x;i++)
          {
           sum=sum+i;
          }
      System.out.println(sum);
}
```

46. WJPT to print the A**ll the Even number within n**.

▼ Ans

```
/*What is Even number= "A whole number that is able to be
divided by two into two equal whole numbers The numbers 0, 2, 4, 6, and 8 are even numbers"*/
/*What is Whole number= "Whole Numbers The numbers that include natural numbers and zero.
Not a fraction or decimal. {0, 2, 3, 4, 5 6, 7, 8, 9, 10, 11 …}.
Whole numbers don't include negative numbers, fractions, or decimals"*/
public static void main(String arg[])
{
    Scanner kd=new Scanner(System.in);
    System.out.print("Enter one integer number= ");
      int x=kd.nextInt();

              for(int i=0;i<=x;i=i+2)
              {
             System.out.print(i);
              }
}
```

47. WJPT print the **multiplication table** for user entered number.

▼ Ans

```
public static void main(String arg[])
{
  Scanner kd=new Scanner(System.in);
  System.out.println("Enter one integer number= ");
  int x=kd.nextInt();kd.close();
```

```
            for(int i=1; i<=10; i++)
            {
                 System.out.println(x+" * "+i+" = "+i*x);
            }
}
```

48. WJPT calculate the **Factorial of n** by using **while loop** and **For loop**.

▼ Ans

File= Factorial_n

1). By using for loop= int fact=1; for(int i=1; i<=x; i++) {fact=fact*i;} S.o.p(fact);

2). By using while loop= int fact=1; while (x>1) {fact=fact*x; x--;} S.o.p(fact);

```
public static void main(String arg[])
{
  Scanner kd=new Scanner(System.in);
  System.out.println("Enter one integer number= ");
  int x=kd.nextInt();

            int fact=1;
          for(int i=1; i<=x; i++)
           {
             fact=fact*i;
           }

              int fact=1;
              while (x>1)
              {
              fact=fact*x;
              x--;
              }

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

49. WJPT print all the **odd number between 1 to n**.

▼ Ans

File= All_odd

1). for(int i=1; i<=x; i=i+2) { S.o.p(i); }

```
public static void main(String arg[])
{
  Scanner kd=new Scanner(System.in);
  System.out.print("Enter the one integer value= ");
  int x=kd.nextInt();

   for(int i=1;i<=x;i=i+2)
    {
      System.out.print(" "+i);
     }
}
```

50. WJPT print the **multiple of 3's within 10**.

▼ Ans

File= Multiple_3

1). for(int i=3; i<=x; i=i+3) { S.o.p(i); }

```
public static void main(String arg[])
{
  Scanner kd=new Scanner(System.in);
  System.out.print("Enter the one integer value= ");
  int x=kd.nextInt();

  for(int i=3;i<=x;i=i+3)
  {
    System.out.print(" "+i);
  }
}
```

51. WJPT calculate the **Sum of even number with in n**.

▼ Ans

```
//I/p=10     O/p=0+2+4+6+8+10=30
public static void main(String arg[])
{
  Scanner kd=new Scanner(System.in);
  System.out.print("Enter the one integer value= ");
  int x=kd.nextInt();kd.close();
  int sum=0;
  for(int i=2;i<=x;i=i+2)
    {
     sum=sum+i;
    }
    System.out.print(sum);
    }
}
```

52. WJPT print the **Product of odd number with n**.

▼ Ans

File= Product_odd

1). int sum=1; for(int i=1; i<=x; i=i+2) { sum=sum*i; } S.o.p(sum);

```
public static void main(String arg[])
{
  Scanner kd=new Scanner(System.in);
  System.out.print("Enter the one integer value= ");
  int x=kd.nextInt();
  int sum=1;
  for(int i=1;i<=x;i=i+2)
    {
      sum=sum*i;
  }
```

```
System.out.print(sum);
}
```

53. WJPT calculate **Sum of digit of number**.

▼ Ans

File= Sum_Digit_Num

1). while loop(int sum=0; while (x!=0) { int d=x%10; sum=sum+d; x=x/10; } S.o.p(sum);

```
public static void main(String arg[])
  {
   Scanner kd=new Scanner(System.in);
   System.out.println("Enter the Two Diferent value ");
   int x=kd.nextInt();
           int sum=0;
            while (x!=0)
            {
             int d=x%10;
             sum=sum+d;
             x=x/10;
            }
     System.out.println(sum);
  }
```

54. WJPT **how many Even digit and Odd digit present** in the number.

▼ Ans

```
method --->1
public static void main(String arg[])
  {
   Scanner kd=new Scanner(System.in);
   System.out.println("Enter the integer value ");
   int x=kd.nextInt(); int EC=0,OC=0;

            while (x!=0)
            {
            int d=x%10;
                if(d%2==0)
                     EC++;
                   else
                     OC++;
               x=x/10;
            }
    System.out.println("Even count of this number "+EC);
    System.out.println("Odd count of this number "+OC);
  }
Method-->2
public static void main(String arg[])
  {
   Scanner kd=new Scanner(System.in);
   System.out.println("Enter the integer value ");
   int x=kd.nextInt(); int EC=0,OC=0;

            do
            {
            int d=x%10;
                if(d%2==0)
```

```
                    EC++;
                   else
                    OC++;
               x=x/10;
            } while (x!=0);
   System.out.println("Even count of this number "+EC);
   System.out.println("Odd count of this number "+OC);
  }
```

55. WJPT calculate **Product of digit present in the number**.

▼ Ans

```
public static void main(String arg[])
{
  Scanner kd=new Scanner(System.in);
  System.out.println("Enter integer number ");
  int a=kd.nextInt(); int pro=1;

  while (a!=0)
  {
   int d=a%10;
   pro=pro*d;
   a=a/10;
  }
  System.out.println("Enter integer number "+pro);

}
```

56. WJPT print **how many digit present in the number.**

▼ Ans

```
public static void main(String arg[])
{
  Scanner kd=new Scanner(System.in);
  System.out.println("Enter Two Digit Integer Number= ");
  int m=kd.nextInt();

         if (m>-10&&m<10)
  System.out.println("Entered Value is DIGIT");
     else
  System.out.println("Entered Value is NUMBER");

}
```

57. WJPT calculate the **Sum of Even and Odd digit present in number.**

▼ Ans

```
int x=kd.nextInt();
int ec=0,oc=0;

  while (x!=0)
  {
    int d=x%10;
    if(d%2==0)
```

```
    ec=ec+d;
  else
    oc=oc+d;
    x=x/10;
  }
System.out.println("The sum of Even digit is= "+ec);
System.out.println("The sum of Odd digit is= "+oc);
------------------------------------------------------------
int x=kd.nextInt();
int ec=0,oc=0,i=x;

for(i=1;i<=x;i++)
{
if(i%2==0)
ec=ec+i;
else
oc=oc+i;
}
System.out.println("Sum of Even digit is= "+ec);
System.out.println("Sum of Odd digit is= "+oc);
```

58. WJPT calculate the **Average of number.**

▼ Ans

```
static int digitcount(int a)
     {
        int sum=0,count=0;
          do
         {
           count++;
           int d=a%10;
           sum=sum+d;
           a=a/10;
         }while (a!=0);
        return sum/count;
    }
public static void main(String arg[])
{
    Scanner kd=new Scanner(System.in);
    System.out.println("Enter the number= ");
    int n=kd.nextInt();kd.close();

    int p=digitcount(n);
      System.out.println("Average of that numberis "+p);
}
```

59. WJPT find the **biggest number in the number**.

▼ Ans

```
static int digitcount(int a)
           {
              int big=a%10;
               do
                {
                  int d=a%10;
                  if(d>big)
                    big=d;
                    a=a/10;
```

```
               }while (a!=0);
             return big;
}
public static void main(String arg[])
{
Scanner kd=new Scanner(System.in);
System.out.println("Enter the number= ");
int n=kd.nextInt();

int p=digitcount(n);
System.out.println("Biggest digit of that number is "+p);
}
```

63. WJPT define a method to return **n power p**.

▼ Ans

File= n_power_p

```
public static void main(String arg[])
{
  Scanner kd=new Scanner(System.in);
  System.out.print("Enter the one number= ");int z=kd.nextInt();
  System.out.print("Enter the power= ");int y=kd.nextInt();


  int x=pow(z,y);
  System.out.println(x);
}
static int pow(int n,int p )  //2 4
{
   int prod=1;
     while(p>0)
      {
        prod=prod*n;
        p--;
      }
    return prod;

}
```

66. Define method to return the **sum of sum of prime digit in the number**.

▼ Ans

File= Sum_Prime

```
public static void main(String arg[])
   {
     Scanner kd = new Scanner(System.in);
     System.out.print("Enter the number= ");
     int z=kd.nextInt();

     int y=sumofprime(z);
     System.out.println("Sum of prime number is= "+y);
   }

        static int sumofprime(int n)
         {
              int d=0,sum=0;
```

```
            do
             {
               d=n%10;
               if(d==1 || d==2 || d==3 || d==5 || d==7)
               {
                 sum=sum+d;
               }
               n=n/10;
             }while(n!=0);
           return sum;
         }
```

67. DMTR product of digit.

▼ Ans

```
static int productofdigit(int x)
  {
    int pro=1;
    do
      {
        int d=x%10;
        pro=pro*d;
        x=x/10;
      }while(x!=0);
    return pro;
  }
  public static void main(Object o)
  {
    Scanner sc=new Scanner(System.in);
    System.out.println("Enter the three values:- ");
    int x=sc.nextInt();sc.close();
    int cp=productofdigit(x);
    System.out.println(cp);
  }
```

68. DMTR **how many divisor or factor are there for n**.(I/p=6 , O/p=4)

▼ Ans

File= Sum_Divisor

```
public static void main(String arg[])
   {
     Scanner kd = new Scanner(System.in);
     System.out.print("Enter the number= ");
     int z=kd.nextInt();

     int y=howmanydivisor(z);
     System.out.println("Number of Divisor is= "+y);
   }

        static int howmanydivisor(int n)
         {
                 int count=0;

                    for(int i=1;i<=n;i++)
                      {
                         if(n%i==0)
                           {
```

```
                            count++;
                          }
                      }

          return count;
        }
```

69. DMTR **sum of odd digit** in the number.

▼ Ans

```
public static void main(String arg[])
   {
     Scanner kd = new Scanner(System.in);
     System.out.print("Enter the number= ");
     int z=kd.nextInt();

     int y=Sumodd(z);
     System.out.println("Sum of Odd number is= "+y);
   }

        static int Sumodd(int n)
         {
                 int sum=0;
                 for(int i=1; i<=n; i=i+2)
                    {
                       sum=sum+i;
                    }

           return sum;
         }
```

82. DMTR **Decimal to Binary, octal and Hexadecimal.**

▼ Ans

File= conversion1

```
public static void main(String arg[])
  {
    Scanner kd=new Scanner(System.in);
    System.out.print("Enter the number= ");
    int z=kd.nextInt();

    String bn=decTobin(z);
    String ot=decTooct(z);
    String hx=decTohex(z);
    System.out.println("Binary eqvivalent is= "+bn);
    System.out.println("Octal eqvivalent is= "+ot);
    System.out.println("Hexadecimal eqvivalent is= "+hx);
  }
  static String decTobin(int x)
   {
     String a=" ";
      do{
         int d=x%2;
             a=d+a;
             x=x/2;
        }while(x!=0);
     return a;
```

```
 }
static String decTooct(int x)
 {
   String b=" ";
    do{
       int d=x%8;
           b=d+b;
           x=x/8;
      }while(x!=0);
   return b;
 }
static String decTohex(int x)
 {
   String c=" ";
    do{
       int d=x%16;
           if(d<10)
             c=d+c;
           else
             c=(char)(d+55)+c;
           x=x/16;
      }while(x!=0);
   return c;
 }
```

83. DMTR **convert number from binary to decimal and octal to decimal.**

▼ Ans

File= Conversion2

```
public static void main(String arg[])
  {
     Scanner kd = new Scanner(System.in);
     System.out.print("Enter the number= ");
     int z=kd.nextInt();

     int bn=binTodec(z);
     int ot=octTodec(z);

     System.out.println("Decimal value is "+bn);
     System.out.println("Octal value is "+ot);
  }
  static int binTodec(int x)
  {
     int pw=1,bin=0;
      do{
          int d=x%10;
              bin=bin+d*pw;
              pw=pw*2;
              x=x/10;
        }while(x!=0);
      return bin;
  }
  static int octTodec(int x)
  {
     int pw=1,oct=0;
      do{
          int d=x%10;
              oct=oct+d*pw;
              pw=pw*8;
              x=x/10;
        }while(x!=0);
```

```
      return oct;
  }
```

67. **Armstrong number** I/P= 153 O/P = Yes I/P= 152 O/P = No

▼ Ans

```
public static void main(String arg[])
{
    int z=153;
    boolean y=isarmstrong(z);
    if(y)
       System.out.print(z+" is ArmStrong Number");
   else
       System.out.print(z+" is not ArmStrong Number");
}
static boolean isarmstrong(int n)
   {
       int sum=0,temp=n;
       int dc=digitcount(n);
       do
         {
          int d=n%10;
              sum=sum+pow(d,dc);
              n=n/10;
         }while(n!=0);
      return sum==temp;
   }

 static int pow(int n,int p)
   {
       int pro=1;
         while(p>0)
          {
           pro=pro*n;
           p--;
         }
      return pro;
   }

 static int digitcount(int m)
   {
       int count=0;
         do
          {
           count++;
           m=m/10;
         }while(m!=0);
      return count;
   }
```

74. **Armstrong number between m and n.** I/P1=100 I/P2=400 O/P=153 370 371

▼ Ans

```
public static void main(String arg[])
 {
   int m=1;
   int n=1000;
```

```
   for(int i=m;i<=n;i++)  //If they ask only n then (Put here i=0)
    {
      boolean z=isarmstrog(i);
       if(z)
        System.out.print(i+" ");
    }
 }
 static boolean isarmstrog(int x)
  {
     int sum=0,temp=x;
     int dc=countdigit(x);
     do{
        int d=x%10;
        sum=sum+pow(d,dc);
        x=x/10;
       }while(x!=0);
    return sum==temp;
  }
 static int countdigit(int a)
 {
    int count=0;
    do{
        count++;
        a=a/10;
      }while(a!=0);
   return count;
 }
 static int pow(int n, int p)
 {
    int po=1;
   while(p>0)
     {
       po=po*n;
       p--;
     }
   return po;
 }
```

75. **Armstrong number only 10 numbers.**

▼ Ans

```
public static void main(String arg[])
  {
    int x=10;
    for(int i=1; x>0; i++)
    {
      boolean y=isarmstrog(i);
      if(y)
      {
        System.out.print(i+" ");
        x--;
      }
    }
  }
```

72. Next **Armstrong** number based on user entered number. I/P=153 O/P=370

▼ Ans

```
public static void main(String arg[])
  {
    int m=153;

    for(int i=m+1; true; i++)
    {
      boolean y=isarmstrog(i);
      if(y)
      {
        System.out.print(i+" ");
        break;
      }
    }
  }
```

73. Previous **Armstrong** number based on user entered number. I/P=370 O/P=153

▼ Ans

```
public static void main(String arg[])
  {
    int m=370;

    for(int i=m-1; true; i--)
    {
      boolean y=isarmstrog(i);
      if(y)
      {
        System.out.print(i+" ");
        break;
      }
    }
  }
```

72. **DISARIUM** number I/P= 175 O/P = Yes I/P= 173 O/P = No

▼ Ans

```
public static void main(String arg[])
   {
       int z=175;

       boolean y=isdisarim(z);
       if(y)
         System.out.println(z+" is a Disarium number");
       else
         System.out.println(z+" is not a Disarium number");
   }
  static boolean isdisarim(int x)
   {
        int sum=0,temp=x;
        int dc=countdigit(x);
      do{
          int d=x%10;
          sum=sum+pow(d,dc);
          dc--;
          x=x/10;
        } while(x!=0);
     return sum==temp;
```

```
 }
static int countdigit(int a)
{
  int count=0;
   do{
      count++;
      a=a/10;
     } while(a!=0);
  return count;
}
static int pow(int n, int p)
{
  int pow=1;
   while(p>0)
   {
      pow=pow*n;
      p--;
   }
  return pow;
}
```

75. **DISARIUM number between m and n.**

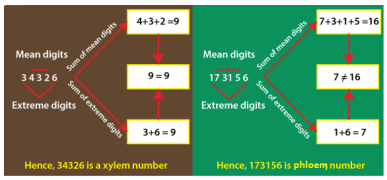
▼ Ans

```
public static void main(String arg[])
   {
       int m=1;
       int n=1000;

       for(int i=m;i<=n;i++)  //If they ask only n then (Put here i=0)
        {
           boolean z=isdisarim(i);
           if(z)
             System.out.print(i+" ");
        }
    }

  static boolean isdisarim(int x)
   {
        int sum=0,temp=x;
        int dc=countdigit(x);
      do{
          int d=x%10;
          sum=sum+pow(d,dc);
          dc--;
          x=x/10;
        } while(x!=0);
     return sum==temp;
   }
  static int countdigit(int a)
  {
    int count=0;
     do{
        count++;
        a=a/10;
       } while(a!=0);
    return count;
  }
  static int pow(int n, int p)
  {
    int pow=1;
     while(p>0)
```

```
    {
       pow=pow*n;
       p--;
    }
   return pow;
  }
}
```

81. **Xylem otherwise Phloem**

▼ Ans




```
public static void main(String arg[])
   {
     int z=34326;

     String y=XylemPhloem(z);
     System.out.println(z+" is a "+y);
   }
  static String XylemPhloem(int x)
  {
     int os=0,ms=0;
         os=os+x%10;
         x=x/10;

         while(x>9)
           {
              ms=ms+x%10;
              x=x/10;
           }
        os=os+x;
   if(os==ms)
      return "Xylem";
   else
      return "Phloem";
  }
------------------------------Method->2
public static void main(String arg[])
   {
     Scanner kd= new Scanner(System.in);
     System.out.print("Enter the numer= ");
     int z=kd.nextInt();

     String y=XylemPhloem(z);
     System.out.println(z+" is a "+y);
   }
  static String XylemPhloem(int x)
  {
     int os=0,ms=0,t=x;
        while(x!=0)
           {
              int d=x%10;
             if(x<=9||t==x)
               os=os+d;
```

```
            else
             ms=ms+d;
           x=x/10;
         }

   if(os==ms)
      return "Xylem";
   else
      return "Phloem";
  }
```

79. **Fibonacci number** I/P= 5 O/P = Yes I/P= 6 O/P = No

▼ Ans

```
--------------------while-Loop--------------------
public static void main(String[] args)
  {
    int x=0;

    int a=0,b=1,c=0;
    while(c<x)
    {
      c=a+b;
      a=b;
      b=c;
    }
    if(a==x)
      System.out.println("yes");
    else
      System.out.println("no");
  }
--------------------For-Loop--------------------
public static void main(String[] args)
  {
      int x=6;

     int a=0,b=1,c=0;
     for(c=c; c<x; c=a+b)
      {
        a=b;
        b=c;
      }
      if(c==x)
        System.out.println("yes");
      else
        System.out.println("no");
  }
```

79. **Fibonacci number within 10.** I/P=10 O/P= 0 1 1 2 3 5 8

▼ Ans

```
--------------------while-Loop--------------------
public static void main(String arg[])
  {
    int x=10;

    int a=0,b=1,c=0;
    while(a<=x)
```

```
    {
      System.out.print(a+" ");
      c=a+b;
      a=b;
      b=c;
    }
  }
--------------------while-Loop--------------------
public static void main(String arg[])
  {
    int x=10;

    int b=1,c=0;
    for(int a=0; a<=x; b=c)
    {
      System.out.print(a+" ");
      c=a+b;
      a=b;
    }
  }
```

80. **Fibonacci number only 10 numbers.** I/P=10 O/P=0 1 1 2 3 5 8 13 21 34

▼ Ans

```
--------------------while-Loop--------------------
public static void main(String arg[])
  {
    int x=10;

    int a=0,b=1,c=0;
    while(x>0)
    {
      System.out.print(a+" ");
      c=a+b;
      a=b;
      b=c;
      x--;
    }
  }
--------------------while-Loop--------------------
public static void main(String arg[])
  {
    int x=10;

    int a=0,b=1,c=0;
    for(int i=0; i<x; i++)
    {
      System.out.print(a+" ");
      c=a+b;
      a=b;
      b=c;
    }
  }
```

80. **Fibonacci number between m and n.** I/P=10 O/P= 55 89

▼ Ans

```
public static void main(String arg[])
  {
    int m=50;
    int n=100;

    for (int i = m; i<=n; i++)
    {
      boolean rs=Fibonacci(i);
      if(rs)
        System.out.print(i+" ");
    }

  }
  public static boolean Fibonacci(int x)
  {
    int f1=0,f2=1,f3=0;
    while(f3<x)
    {
      f3=f1+f2;
      f1=f2;
      f2=f3;
    }
    if(f3==x)
      return true;
    else
      return false;
  }
```

89. Next Fibonacci number based on user entered number. I/P=5 O/P=8

▼ Ans

```
---------------------------Geeks for geeks Method-------------------------------
public static void main (String[] args)
  {
    int x = 8;
    double a= x*(1+Math.sqrt(5))/2.0;
    System.out.println(Math.round(a)); //Math.round() will remove decimal point stored as a int.
  }
---------------------------Diamonds's Method---------------------------------
public static void main(String[] args)
  {
    int x=8;

    int a=0,b=1,c=0;
    while(a<x)
    {
      c=a+b;
      a=b;
      b=c;
    }
    System.out.println(b);
  }
```

85. Previous Fibonacci number based on user entered number. I/P= 8 O/P=5

▼ Ans

```
--------------------------Geeks for geeks Method-----------------
public static void main (String[] args)
  {
    int x = 8;
    double a = x / ((1 + Math.sqrt(5)) / 2.0);
    System.out.println(Math.round(a)); //Math.round() will remove decimal point stored as a int.
  }
--------------------------Diamonds's Method-----------------
public static void main(String[] args)
  {
    int x=8;

    int a=0,b=1,c=0;
    while(c<x)
    {
      c=a+b;
      a=b;
      b=c;
    }
    System.out.println(a);
  }
```

85. **Fibonacci number using Recursion** ?

▼ Ans

```
public static int fibRecursion(int count)
  {
    if (count == 0)
    {
      return 0;
    } // Oth fibonacci is 0

    if (count == 1 || count == 2)
    {
      return 1;
    } // 1st and 2nd Fibonacci are 1 and 1 only

    // calling function recursively for nth Fibonacci
    return fibRecursion(count - 1) + fibRecursion(count - 2);
  }

  public static void main(String args[])
  {
    int n = 9;

    System.out.print("Fibonacci Series of " + n + " numbers is: \n");

    for (int i = 0; i < n; i++)
    {
      System.out.print(fibRecursion(i) + " ");
    }
  }
```

73. **HAPPY number**

▼ Ans

```
13 is a happy number
public static void main(String arg[])
 {
  Scanner kd=new Scanner(System.in);
  System.out.print("Enter the number= ");
  int z=kd.nextInt();

  boolean y=ishapynumber(z);
  if(y)
   System.out.println(z+" is the HAPPY number");
  else
   System.out.println(z+" is not HAPPY number");
 }
 static boolean ishapynumber(int x)
 {
     while(x>9)
      {
        int sum=0;
          do{
               int d=x%10;
               sum=sum+d*d;
               x=x/10;
            }while(x!=0);
         x=sum;
      }
   return x==1||x==7;
 }
```

70. **Palindrome**

▼ Ans

```
public static void main(String arg[])
  {
    int z=13;

    if(Palindrome(z))
      System.out.println(z+" is palindrom");
    else
      System.out.println(z+" is not palindrom");
  }

  static boolean Palindrome(int n)
  {
    int rev=0,temp=n;
    do
    {
      int d=n%10;
      rev=rev*10+d;
      n=n/10;
    }while(n!=0);
    return rev==temp;
  }
```

76. **All Palindrome number only 3-digit**.

▼ Ans

```
public static void main(String arg[])
 {
   Scanner kd=new Scanner(System.in);
   System.out.println("3-Digit Palindrome number are:= ");
   for(int i=100;i<=999;i++)
     {
       boolean z=palindrome(i);
        if(z)
          System.out.print(i+" ");
     }
 }
 static boolean palindrome(int x)
 {
       int rev=0,temp=x;
    do{
         int d=x%10;
         rev=rev*10+d;
          x=x/10;
      }while(x!=0);
    return rev==temp;
 }
```

61. **Perfect number**

▼ Ans

```
/*Perfect number = "The given number is equal to sum of proper divisor of that number"
(EX=28= 1+2+4+7+14 =28 )*/
//I/p=28 O/p= it is perfect number
------------------------------------------------
public static void main(String arg[])
  {
    int z=28;

    if(isperfect(z))
      System.out.println(z+" is Perfect Number");
    else
      System.out.println(z+" is not Perfect Number");
  }
  static boolean isperfect(int n)  //55
  {
    int sum=0;
    for(int i=1;i<=n/2;i++)
    {
      if(n%i==0)
        sum=sum+i;
    }
    return sum==n;
  }
```

64. **Strong** number is also called as Special number ?

▼ Ans

```
145 = 1!+4!+5! = 145
-----------------------------------------------------
public static void main(String arg[])
  {
    int z=145;
```

```
    if(isstrong(z))
      System.out.print(z+" is Strong Number");
    else
      System.out.print(z+" is not Strong Number");
  }
  public static boolean isstrong(int x)
  {
    int sum=0,temp=x;
    do
    {
      int d=x%10;
      sum=sum+fact(d);
      x=x/10;
    }while(x!=0);
    return sum==temp;
  }
  public static int fact(int y)
  {
    int fact=1;
    while(y>1)
    {
      fact=fact*y;
      y--;
    }
    return fact;
  }
```

78. **Strong number within n**.

▼ Ans

```
Strong Numbers are the numbers whose sum of factorial of digits is equal to the original number
Ex: 145= 1!+4!+5! = (1)+(4*3*2*1)+(5*4*3*2*1) = 145
--------------------------------------------------------------------------------------
public static void main(String arg[])
  {
    int z=145;

    for(int i=0; i<=z; i++)
    {
      if(isstrong(i))
        System.out.print(i+" ");
    }
  }
  static boolean isstrong(int x)
  {
    int sum=0,temp=x;
    do{
      int d=x%10;
      sum=sum+fact(d);
      x=x/10;
    }while(x!=0);
    return sum==temp;
  }
  static int fact(int a)
  {
    int fact=1;
    while(a>0)
    {
      fact=fact*a;
      a--;
    }
```

```
    return fact;
  }
```

62. **Prime number**

▼ Ans

```
public static void main(String arg[])
  {
    int z=77;

    if(isprime(z))
      System.out.println(z+" is Prime Number");
    else
      System.out.println(z+" is not Prime Number");
  }
  static boolean isprime(int n)  //11
  {
    for(int i=2; i<=n/2; i++)
    {
      if(n%i==0)
        return false;
    }
    return true;
  }
-----------------------------------------------------------
public static void main(String arg[])
  {
    int x=27; //Input

    int count=0;
    for(int i=2; i<=x/2; i++)
    {
      if(x%i==0)
        count++;
    }
    if(count>0)
      System.out.print("Not-Prime number or Composite Number");
    else
      System.out.print("Prime number");
  }
}
```

77. **Prime number with in n number.**

▼ Ans

```
public static void main(String arg[])
  {
    int z=10;  //Input

    for(int i=1; i<=z; i++)
    {
      if(primenumber(i))
      System.out.print(i+" ");
    }
  }
  static boolean primenumber(int x)
  {
    for(int i=2;i<=x/2;i++)
```

```
    {
      if(x%i==0)
        return false;
    }
    return true;
  }
```

65. **Count how many Prime digit** present in number.

▼ Ans

```
public static void main(String arg[])
  {
    int z=1234482;

    System.out.print("Prime Number= "+countprime(z));
  }
  static int countprime(int m)
  {
    int count=0;
    do
    {
      int d=m%10;
      if(d==1||d==2||d==3||d==5||d==7)
        count++;

      m=m/10;
    }while(m!=0);
    return count;
  }
```

90. WJPT find least nearest prime number to a user entered number and find how much we should add to get the user entered number from that least prime number ? Input=25 Output=Least prime number of 25 is 23 To get 25 from least prime number we need to add 2

▼ Ans

```
-----------------Madhakari veera madhakari' code-------------------------------------
public static void main(String[] args) {
    Scanner sc=new Scanner(System.in);
    System.out.println("Program Started");
    System.out.print("Enter the number: ");
    int n=sc.nextInt();

    int []arr=new int[n];
    int cou=0,err=0,add=0;

    // Storing prime between 1 to n values in the array
    for(int i=1;i<n;i++) {
      if(i==1) {
        arr[cou++]=i;
        add++;
      }else {
        for(int j=2;j<=i/2;j++) {
          if(i%j==0) {
            err++;
            break;
          }
        }
```

```
        if(err==0)
        {
          arr[cou++]=i;
          add++;
        }
        err=0;
      }
    }
    int res=0;
    res=arr[add-1];
    System.out.println("Least prime number of "+n+" is "+res);
    System.out.println("To get "+n+" from least prime number we need to add "+(n-res));
    sc.close();
    System.out.println("Program ended");
  }
-------------------Diamond's and Lengend's code---------------------------
public static void main(String[] args)
  {
    int n=25;

    int temp=0;
    for(int i=1; i<=n; i++)
    {
      if(isprime(i))
        temp=i;
    }
    System.out.println(temp);
    System.out.println(n-temp);
  }
  static boolean isprime(int x)
  {
    for(int i=2; i<=x/2; i++)
    {
      if(x%i==0)
      return false;
    }
    return true;
  }
------------------Promod kumar's code-----------------
public static boolean isPrime(int n) {
    if (n<2) {
      return false;
    }
    else {
      for (int i=2; i<n; i++) {
        if (n%i == 0) {
          return false;
        }
      }
    }
    return true;
  }

  public static void play(int score) {
    String primes = "";
    int count = 0;
    int toGet = score;
    while (toGet > 1 && score!=0) {
      if (isPrime(toGet)) {
        // primes += String.valueOf(toGet) + ",";
        primes += toGet + ",";
        count++;
        score -= toGet;
        toGet = score;
      }
      else {
```

```
        toGet--;
      }
    }
    if (primes != "") {
      primes = primes.substring(0,primes.length()-1);
    }
    System.out.println("Number of Moves = " + count + "(" + primes + "), Residual value=" + score);
  }

  public static void main(String[] args) {
    Scanner sc = new Scanner(System.in);
    int t = sc.nextInt();
    int[] targets = new int[t];
    for (int i=0; i<t; i++) {
      targets[i] = sc.nextInt();
    }
    for (int ele : targets) {
      play(ele);
    }
    sc.close();
  }
```

84. SPY **number**

▼ Ans

```
132 = (1+3+2)= 6=6 =(1*3*2) This is Spy number
------------------------------------------------------------
public static void main(String arg[])
  {
    int z=132;  //Input

    if(isSpynum(z))
      System.out.println(z+" is the Spy number");
    else
      System.out.println(z+" is not Spy number");
  }
  static boolean isSpynum(int x)
  {
    int sum=0,pro=1;
    do
    {
      int d=x%10;
      sum+=d;
      pro*=d;
      x=x/10;
    }while(x!=0);
    return sum==pro;
  }
```

85. Add Two numbers without using Arithmetic Operator ?

▼ Ans

```
public static void main(String[] args)
  {
    int a = 10;
    int b= 20;
    for (int i = 1; i <= b; i++)
      a++;
```

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

88. Swap Two integer value without using 3rd variable ? I/P1= 10 I/P2= 30 O/P1= 30 O/P2= 30

▼ Ans

▼ Without Using 3rd Variable

```
public static void main(String[] args)
  {
    Scanner sc= new Scanner(System.in);
    int a=sc.nextInt();
    int b=sc.nextInt();
    sc.close();

    a=a+b;
    b=a-b;
    a=a-b;

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

▼ With Using 3rd variable

```
public static void main(String[] args)
  {
    Scanner sc= new Scanner(System.in);
    int a=sc.nextInt();
    int b=sc.nextInt();
    sc.close();

    int c=a;
    a=b;
    b=c;

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

87. User Enter Number in Ascending order ? I/P= 4321 O/P= 1234

▼ Ans

```
public static void main(String[] args)
  {
    int x=153972;

    int count=0,temp=x;
    do
    {
      count++;
      temp/=10;
    }while(temp!=0);

    int a[]=new int[count];
```

```
    for (int i = 0; i < a.length; i++)
    {
      int d=x%10;
      a[i]=d;
      x=x/10;
    }

    Arrays.sort(a); //We can use bubble sort also

    int merge=0;
    for (int i = 0; i < a.length; i++)
    {
      merge=merge*10+a[i];
    }
    System.out.println(merge);
  }
```

86. User Enter Number in Descending order ? I/P= 1234 O/P= 4321

▼ Ans

```
public static void main(String[] args)
  {
    int x=153972;

    int count=0,temp=x; //First count the digit
    do
    {
      count++;
      temp/=10;
    }while(temp!=0);

    int a[]=new int[count]; //Create one array according to size
    for (int i = 0; i < a.length; i++) //Stores it in an array
    {
      int d=x%10;
      a[i]=d;
      x=x/10;
    }

    Arrays.sort(a); //We can use bubble sort also
    int m=0,n=a.length-1; //Reverse the String
    while(m<n)
    {
      int temp1=a[m];
      a[m]=a[n];
      a[n]=temp1;
      m++;
      n--;
    }

    int merge=0;
    for (int i = 0; i < a.length; i++)
    {
      merge=merge*10+a[i];
    }
    System.out.println(merge);
  }
```

87. Find GCD (Greatest Common Factor) or HCF (Highest Common Factor) of two number ? Find LCM (Least Common Factor) of two number ? Input1= 7 Input2= 13 Output= 1 Input1= 4 Input2= 12 LCM= 4

HCF= 4 Input1= 7 Input2= 13 LCM= 20 HCF= 1

▼ Ans

```
public static void main(String[] args)
  {
    int a=24,b=120;
    int HCF = 0;
    int small=a<b?a:b;
    int i=small;
    while(i>=1)
    {
     if(a%i==0 && b%i==0)
     {
      HCF=i;
      break;
     }
     i--;
    }
    int LCM=(a*b)/HCF;
    System.out.println("HCF--> "+HCF);
    System.out.println("LCM--> "+LCM);
  }
```

85. Suppose you have coins of 1,2, and 5 Rs and total 15. Each Rs 5 coins you have. Calculate the minimum number of coins required to equal user entered number? (Ex: I/p=33, O/t=9)

▼ Ans

```
public static void main(String[] args)
  {
    Scanner sc=new Scanner(System.in);
    int n=sc.nextInt();sc.close();
    int sum=0,a=0,b=0,c=0;
    if(n>25)
    {
      n=n-25;
      a=a+5;
    }
    else
    {
      a=n/5;
      n=n%5;
    }
    if(n>10)
    {
      n=n-10;
      b=b+5;
    }
    else
    {
      b=n/2;
      n=n%2;
    }
    if(n<=5)
     c=n;
    else
      System.out.println("Invalid");
    sum=a+b+c;
    System.out.println(sum);
  }
```

86. Write a program that will provide suggestions to improve the speed of delivering a software project. It can be assumed that all the resources would take same amount of time to get a piece of work done. The program will take the Number of resources, Working hours per day and Total effort required to complete the project (in hours) as input. Based on the input provided, the program should determine the number of weeks required to complete the project. A week will have 6 working days. The user can provide the number of weeks within which he wants to complete the project. The program will calculate the number of additional resources required to complete the project within the time duration.
Sample:
Input resource count, working hours and total efforts= 5, 9, 500
The project can be completed in 2 weeks. Do you want to optimize? Provide Y/N = Y
Input the number of weeks within which the project should be completed = 1
The project can be completed in a week by adding another 5 resources.

▼ Ans

```
----------------Diamond's and Legend's Code-----------------------------
  public static void main(String[] args)
  {
    Scanner sc=new Scanner(System.in);
    int res=sc.nextInt();
    int hours=sc.nextInt();
    int work=sc.nextInt();

    int workperday=hours*res;
    float noofday=work/workperday;
    int week=(work/(workperday))/6;
    float weeks=noofday/6f;

    if((weeks%10)>=0.1)
    {
      System.out.println("Project can be completed in "+(week+1)+
          " week. Do you want to optimize. Provide Y/N");
    }
    else
    {
      System.out.println("Project can be completed in "+week+
          " week. Do you want to optimize. Provide Y/N");
    }
    System.out.println();
    char an=sc.next().charAt(0);
    if(an=='Y'||an=='y')
    {
      System.out.println("");
      int n=sc.nextInt();sc.close();
      float no=(work/(n*6f*hours));
      int nos=(work/(n*6*hours));
      if((no%10)>=0.1)
      {
        System.out.println("The project can be completed in a week "+n
            + "by adding another "+(nos+1-res)+" resources.");
      }
      else
      {
        System.out.println("The project can be completed in a week "+n
            + "by adding another "+(nos-res)+" resources.");
      }
    }
```

```
  }
}
```

87. Ahmed thinks that the more he spends, he will get better products. He wants to buy few Electronic items from one single outlet. The below table contains the list of items and cost at various brander outlet.. Write a java program that will get the list of items required by Ahmed; use the below table to identify the right outlet that suits his buying policy.

Items	Croma	VGP	Vivek	Giria	Pai
64" LED TV	2,50,000	1,175,00	2,50,000	2,55,000	2,40,000
Home Theatre	6,00,000	6,25,000	5,50,000	7,00,000	6,50,000
Multi Door Refrigerator	1,50,000	2,50,000	1,75,000	1,42,000	1,65,000
Music System	90,000	99,999	1,15,000	1,25,000	97,000

Sample Input= Dear Mr. Ahmed, kindly list the items you want to buy

- Home Theatre
- Music System
- 64" LED TV

Sample Output = Mr.Ahmed, you can buy all your items at Giria for Rs. 10,80,000

▼ Ans

▼ Maximum Total Price

```
---------------OUTPUT-----------------
how many product you want to buy
3
what are those?
TV
Music
HomeThratre
In Croma, You can buy at Rs.940000
In VGP, You can buy at Rs.842499
In Vivek, You can buy at Rs.915000
In Giria, You can buy at Rs.1080000
In Pai, You can buy at Rs.987000
Mr.Ahmed,you can buy all you items at Giria for Rs.1080000
-------------------------Code--------------------------------
import java.util.Scanner;
//maximum total price
public class outlet1
{
  String outlet1;
  int tv;
  int ref;
  int music;
  int hometh;
  public outlet1(String out,int tv1,int ht,int ref1,int musi)
  {
    outlet1=out;
    tv=tv1;
    ref=ref1;
```

```
    music=musi;
    hometh=ht;
  }
  public static void main(String[] args)
  {
    Scanner sc=new Scanner(System.in);
    outlet1 o1=new outlet1("Croma",250000,600000,150000,90000);
    outlet1 o2=new outlet1("VGP",117500,625000,250000,99999);
    outlet1 o3=new outlet1("Vivek",250000,550000,175000,115000);
    outlet1 o4=new outlet1("Giria",255000,700000,142000,125000);
    outlet1 o5=new outlet1("Pai",240000,650000,165000,97000);

    outlet1 o[]= {o1,o2,o3,o4,o5};
    System.out.println("how many product you want to buy");
    int n=sc.nextInt();
    String s[]=new String[n];
    System.out.println("what are those?");
    for (int i = 0; i < s.length; i++)
    {
      s[i]=sc.next();
    }
    sc.close();
    int big=0,k=0;
    for(int i=0;i<o.length;i++)
    {
      int tot=0;
      for(int j=0;j<s.length;j++)
      {
        int total=0;
        if(s[j].equalsIgnoreCase("TV"))
        {
          total= total+o[i].tv;
        }
        if(s[j].equalsIgnoreCase("Refrigirator"))
        {
          total= total+o[i].ref;
        }
        if(s[j].equalsIgnoreCase("Music"))
        {
          total= total+o[i].music;
        }
        if(s[j].equalsIgnoreCase("HomeThratre"))
        {
          total= total+o[i].hometh;
        }
        tot=tot+total;
      }
      System.out.println("In "+o[i].outlet1+", You can buy at Rs."+tot);
      if(tot>big)
      {
        big=tot;
        k=i;
      }
    }
    System.out.println("Mr.Ahmed,you can buy all you items at "+o[k].outlet1+" for Rs."+big);
  }
}
```

▼ Maximum Individual Price

```
-----------------OUTPUT----------------------
how many product you want to buy
4
```

```
what are those?
TV
HomeTheatre
Music
Refrigirator
Mr.Ahmed you are items are:-
64'' LED TV Rs.255000 at Giria
Home Theatre Rs.700000 at Giria
Music System Rs.125000 at Giria
Refrigerator Rs.250000 at VGP
Dear Mr.Ahmed, your can buy all your items for Rs. 1330000
------------------------------------------------------------
import java.util.Scanner;
//maximum individual price
public class outlet
{
  String outlet;
  int tv;
  int ref;
  int music;
  int hometh;
  public outlet(String out,int tv1,int ht,int ref1,int musi)
  {
    outlet=out;
    tv=tv1;
    ref=ref1;
    music=musi;
    hometh=ht;
  }
  public static void main(String[] args)
  {
    Scanner sc= new Scanner(System.in);
    outlet o1=new outlet("Croma",250000,600000,150000,90000);
    outlet o2=new outlet("VGP",117500,625000,250000,99999);
    outlet o3=new outlet("Vivek",250000,550000,175000,115000);
    outlet o4=new outlet("Giria",255000,700000,142000,125000);
    outlet o5=new outlet("Pai",240000,650000,165000,97000);

    outlet o[]= {o1,o2,o3,o4,o5};
    System.out.println("how many product you want to buy");
    int n=sc.nextInt();
    String s[]=new String[n];
    int count[]=new int[n];
    System.out.println("what are those?");
    for(int i=0;i<n;i++)
    {
      s[i]=sc.next();
    }
    sc.close();
    int l=0;
    System.out.println("Mr.Ahmed you are items are:- ");
    for(int k=0;k<n;k++)
    {
      if(s[k].equalsIgnoreCase("TV"))
      {
        int bigtv=o[0].tv,j=0;
        for(int i=0;i<o.length;i++)
        {
          if(o[i].tv>bigtv)
          {
            bigtv=o[i].tv;
            j=i;
          }
        }
        System.out.println("64'' LED TV Rs."+bigtv+" at "+o[j].outlet);
        count[l]=bigtv;
```

```
        l++;
      }
      if(s[k].equalsIgnoreCase("HomeTheatre"))
      {
        int bight=o[0].hometh,j=0;
        for(int i=0;i<o.length;i++)
        {
          if(o[i].hometh>bight)
          {
            bight=o[i].hometh;
            j=i;
          }
        }
        System.out.println("Home Theatre Rs."+bight+" at "+o[j].outlet);
        count[l]=bight;
        l++;
      }
      if(s[k].equalsIgnoreCase("Refrigirator"))
      {
        int bigref=o[0].ref,j=0;
        for(int i=0;i<o.length;i++)
        {
          if(o[i].ref>bigref)
          {
            bigref=o[i].ref;
            j=i;
          }
        }
        System.out.println("Refrigerator Rs."+bigref+" at "+o[j].outlet);
        count[l]=bigref;
        l++;
      }
      if(s[k].equalsIgnoreCase("Music"))
      {
        int bigm=o[0].music,j=0;
        for(int i=0;i<o.length;i++)
        {
          if(o[i].music>bigm)
          {
            bigm=o[i].music;
            j=i;
          }
        }
        System.out.println("Music System Rs."+bigm+" at "+o[j].outlet);
        count[l]=bigm;
        l++;
      }
    }
    int total=0;
    for(int i=0;i<count.length;i++)
    {
      total=total+count[i];
    }
    System.out.println("Dear Mr.Ahmed, your can buy all your items for Rs. "+total);
  }
}
```

▼ Minimum Total Price

```
----------------------------OUTPUT---------------------------------
how many product you want to buy
3
what are those?
```

```
TV
Music
HomeThratre
In croma, You can buy at Rs.940000
In VGP, You can buy at Rs.842499
In Vivek, You can buy at Rs.915000
In Giria, You can buy at Rs.1080000
In pai, You can buy at Rs.987000
Mr.Ahmed,you can buy all you items at VGP for Rs.842499
-------------------------Code----------------------------------------
import java.util.*;
public class outlet1
{   //Minimum Total price
  String outlet1;
  int tv;
  int ref;
  int music;
  int hometh;
  public outlet1(String out,int tv1,int ht,int ref1,int musi)
  {
    outlet1=out;
    tv=tv1;
    ref=ref1;
    music=musi;
    hometh=ht;
  }
  public static void main(String[] args)
  {
    Scanner sc=new Scanner(System.in);
    outlet1 o1=new outlet1("croma",250000,600000,150000,90000);
    outlet1 o2=new outlet1("VGP",117500,625000,250000,99999);
    outlet1 o3=new outlet1("Vivek",250000,550000,175000,115000);
    outlet1 o4=new outlet1("Giria",255000,700000,142000,125000);
    outlet1 o5=new outlet1("pai",240000,650000,165000,97000);
    outlet1 o[]= {o1,o2,o3,o4,o5};
    System.out.println("how many product you want to buy");
    int n=sc.nextInt();
    String s[]=new String[n];
    System.out.println("what are those?");
    for (int i = 0; i < s.length; i++)
    {
      s[i]=sc.next();
    }
    sc.close();
    int k=0,sm=0,l=0;
    int small []=new int[o.length];
    for(int i=0;i<o.length;i++)
    {   int tot=0;
        for(int j=0;j<s.length;j++)
        {
      int total=0;
      if(s[j].equalsIgnoreCase("TV"))
      {
        total= total+o[i].tv;
      }
      if(s[j].equalsIgnoreCase("Refrigirator"))
      {
        total= total+o[i].ref;
      }
      if(s[j].equalsIgnoreCase("Music"))
      {
        total= total+o[i].music;
      }
      if(s[j].equalsIgnoreCase("HomeThratre"))
      {
        total= total+o[i].hometh;
```

```
      }
      tot=tot+total;
        }
        System.out.println("In "+o[i].outlet1+", You can buy at Rs."+tot);
        small[i]=tot;
    }
    int sml=small[0];
    for (int i = 0; i < small.length; i++)
    {
      if(small[i]<sml)
      {
        sml=small[i];
        k=i;
      }
    }
    System.out.println("Mr.Ahmed,you can buy all you items at "+o[k].outlet1+" for Rs."+sml);
     }
  }
```

▼ Minimum Individual Price

```
---------------------------OUTPUT--------------------------------
how many product you want to buy
4
what are those?
TV
HomeTheatre
Music
Refrigirator
Mr.Ahmed you are items are:-
64'' LED TV Rs.117500 at VGP
Home Theatre Rs.550000 at Vivek
Music System Rs.90000 at croma
Refrigerator Rs.142000 at Giria
Dear Mr.Ahmed, your can buy all your items for Rs. 899500
---------------------------code--------------------------------
import java.util.Scanner;
public class outlet
{
  //Minimum individual price
  String outlet;
  int tv;
  int ref;
  int music;
  int hometh;
  public outlet(String out,int tv1,int ht,int ref1,int musi)
  {
    outlet=out;
    tv=tv1;
    ref=ref1;
    music=musi;
    hometh=ht;
  }
  public static void main(String[] args)
  {
    Scanner sc= new Scanner(System.in);
    outlet o1=new outlet("croma",250000,600000,150000,90000);
    outlet o2=new outlet("VGP",117500,625000,250000,99999);
    outlet o3=new outlet("Vivek",250000,550000,175000,115000);
    outlet o4=new outlet("Giria",255000,700000,142000,125000);
    outlet o5=new outlet("pai",240000,650000,165000,97000);
    outlet o[]= {o1,o2,o3,o4,o5};
    System.out.println("how many product you want to buy");
```

```
int n=sc.nextInt();
String s[]=new String[n];
int count[]=new int[n];
System.out.println("what are those?");
for(int i=0;i<n;i++)
{
  s[i]=sc.next();
}
sc.close();
int l=0;
System.out.println("Mr.Ahmed you are items are:- ");
for(int k=0;k<n;k++)
{
  if(s[k].equalsIgnoreCase("TV"))
  {    int smalltv=o[0].tv,j=0;
  for(int i=0;i<o.length;i++)
  {
    if(o[i].tv<smalltv)
    {
      smalltv=o[i].tv;
      j=i;
    }
  }
  System.out.println("64'' LED TV Rs."+smalltv+" at "+o[j].outlet);
  count[l]=smalltv;
  l++;
  }
  if(s[k].equalsIgnoreCase("HomeTheatre"))
  {
    int smallht=o[0].hometh,j=0;
    for(int i=0;i<o.length;i++)
    {
      if(o[i].hometh<smallht)
      {
        smallht=o[i].hometh;
        j=i;
      }
    }
    System.out.println("Home Theatre Rs."+smallht+" at "+o[j].outlet);
    count[l]=smallht;
    l++;
  }
  if(s[k].equalsIgnoreCase("Refrigirator"))
  {
    int smallref=o[0].ref,j=0;
    for(int i=0;i<o.length;i++)
    {
      if(o[i].ref<smallref)
      {
        smallref=o[i].ref;
        j=i;
      }
    }
    System.out.println("Refrigerator Rs."+smallref+" at "+o[j].outlet);
    count[l]=smallref;
    l++;
  }
  if(s[k].equalsIgnoreCase("Music"))
  {
    int smallm=o[0].music,j=0;
    for(int i=0;i<o.length;i++)
    {
      if(o[i].music<smallm)
      {
        smallm=o[i].music;
        j=i;
```

```
          }
        }
        System.out.println("Music System Rs."+smallm+" at "+o[j].outlet);
        count[l]=smallm;
        l++;
      }
    }
    int total=0;
    for(int i=0;i<count.length;i++)
    {
      total=total+count[i];
    }
    System.out.println("Dear Mr.Ahmed, your can buy all your items for Rs. "+total);
  }
}
```

▼ By Using Collection

```
------------------------OUTPUT-----------------------------
enter product :
tv
want more??
yes
enter product :
music
want more??
yes
enter product :
hometheatre
want more??
no
255000 Giria
125000 Giria
700000 Giria
total =>1080000.rs
------------------------Code-------------------------------------
import java.util.*;
public class outlet
{
  String outlet;
  int tv;
  int ref;
  int music;
  int hometh;
  public outlet(String out,int tv1,int ht,int ref1,int musi)
  {
    outlet=out;
    tv=tv1;
    ref=ref1;
    music=musi;
    hometh=ht;
  }
  public static void main(String[] args)
  {
    Scanner sc= new Scanner(System.in);
    outlet o1=new outlet("croma",250000,600000,150000,90000);
    outlet o2=new outlet("VGP",117500,625000,250000,99999);
    outlet o3=new outlet("Vivek",250000,550000,175000,115000);
    outlet o4=new outlet("Giria",255000,700000,142000,125000);
    outlet o5=new outlet("pai",240000,650000,165000,97000);
    outlet o[]= {o1,o2,o3,o4,o5};
    ArrayList<String> al=new ArrayList<String>();
    while(true)
```

```
    {
      System.out.println("enter product :");
      al.add(sc.next());
      System.out.println("want more??");
      String s=sc.next();
      if(s.equalsIgnoreCase("no"))
      {
        break;
      }
    }
    sc.close();
    int n=al.size();
    int count[]=new int[n];
    int l=0;
    for(int k=0;k<n;k++)
    {
      if(al.get(k).equalsIgnoreCase("tv"))
      {
        int bigtv=o[0].tv,j=0;
        for(int i=0;i<o.length;i++)
        {
          if(o[i].tv>bigtv)
          {
            bigtv=o[i].tv;
            j=i;
          }
        }
        System.out.println(bigtv+" "+o[j].outlet);
        count[l]=bigtv;
        l++;
      }
      if(al.get(k).equalsIgnoreCase("hometheatre"))
      {
        int bight=o[0].hometh,j=0;
        for(int i=0;i<o.length;i++)
        {
          if(o[i].hometh>bight)
          {
            bight=o[i].hometh;
            j=i;
          }
        }
        System.out.println(bight+" "+o[j].outlet);
        count[l]=bight;
        l++;
      }
      if(al.get(k).equalsIgnoreCase("refrigirator"))
      {
        int bigref=o[0].ref,j=0;
        for(int i=0;i<o.length;i++)
        {
          if(o[i].ref>bigref)
          {
            bigref=o[i].ref;
            j=i;
          }
        }
        System.out.println(bigref+" "+o[j].outlet);
        count[l]=bigref;
        l++;
      }
      if(al.get(k).equalsIgnoreCase("music"))
      {
        int bigm=o[0].music,j=0;
        for(int i=0;i<o.length;i++)
        {
```

```
          if(o[i].music>bigm)
          {
            bigm=o[i].music;
            j=i;
          }
        }
        System.out.println(bigm+" "+o[j].outlet);
        count[l]=bigm;
        l++;
      }
    }
    int total=0;
    for(int i=0;i<count.length;i++)
    {
      total=total+count[i];
    }
    System.out.println("total =>"+total+".rs");
  }
}
```

88. Input1: mutton=2Kg Input2: Egg=10 Input1: Milk=1 Output1: Total Cost = 1,7450

Products	Quantity	Bis-Basket	X-mart	Flip-cart	Hotel
Mutton	500g	800 Rs	750 Rs	950 Rs	550
Chicken	900g	200 Rs	250 Rs	199 Rs	20
Egg	10 unit	40 Rs	50 Rs	49 Rs	39
Milk	1 Liters	65 Rs	65 Rs	40 Rs	20

▼ Ans

```

```

85. WJPT count how many digit present in the number and pass this test case Input=00000 , Output=5

▼ Ans

86. What is Recursion ?

▼ Ans

```
static void add(int i)
  {
    System.out.println("manu");
    if(i==1)
    {
      return;
    }
    add(--i);
  }
  public static void main(String[] args)
  {
    add(10);
  }
-------------OUTPUT-----------------------------
manu
```

```
manu
manu
manu
manu
manu
manu
manu
manu
manu
```