import java.util.\*;

public class DistanceConverter {

    Scanner s= new Scanner(System.in);

    Double km,m,hm,dm;

    int convert(Double value)

    {

        System.out.println("enter value in kilometre");

        System.out.println("enter value in metre");

        System.out.println("enter value in hectometre");

        System.out.println("enter value in decametre");

        return 0;

    }

    int kmToAll(Double km)

    {

        System.out.println("VAlue in Meter ="+km\*1000);

        System.out.println("VAlue in HectoMeter ="+km\*10);

        System.out.println("VAlue in DecaMeter ="+km\*100);

        return 0;

    }

    int mToAll(Double m)

    {

        System.out.println("VAlue in kiloMeter ="+m/1000);

        System.out.println("VAlue in HectoMeter ="+m/100);

        System.out.println("VAlue in DecaMeter ="+m/10);

        return 0;

    }

    int hmToAll(Double hm)

    {

        System.out.println("VAlue in kiloMeter ="+hm/10);

        System.out.println("VAlue in Meter ="+hm\*100);

        System.out.println("VAlue in DecaMeter ="+hm\*10);

        return 0;

    }

    int dmToAll(Double dm)

    {

        System.out.println("VAlue in kiloMeter ="+dm/100);

        System.out.println("VAlue in Meter ="+dm\*10);

        System.out.println("VAlue in hectoMeter ="+dm/10);

        return 0;

    }

    public static void main(String[] args)

    {

        DistanceConverter d= new DistanceConverter();

        int choice ;

        Scanner s = new Scanner(System.in);

        System.out.println("Enter your choice");

        System.out.println("Press 1 to convert from Kilometer to All");

        System.out.println("Press 2 to convert from Meter to All");

        System.out.println("Press 3 to convert from Hectameter to All");

        System.out.println("Press 4 to convert from Decameter to All");

        choice = s.nextInt();

        switch (choice)

        {

            case 1:

            System.out.println("Enter Kilometer Value");

            Double km = s.nextDouble();

            d.kmToAll(km);

            break;

            case 2:

            System.out.println("Enter Meter Value:");

            Double m = s.nextDouble();

            d.mToAll(m);

            break;

            case 3:

            System.out.println("Enter Hectameter Value:");

            Double hm = s.nextDouble();

            d.hmToAll(hm);

            break;

            case 4:

            System.out.println("Enter Decameter Value:");

            double dm = s.nextDouble();

            d.dmToAll(dm);

            break;

            default:

            break;

        }

    }

}

Q1

import java.util.\*;

public class BankingDetails

{

    private String accno;

    private String name;

    private String acc\_type;

    private long balance;

    Scanner sc = new Scanner(System.in);

    public void openAccount()

    {

        System.out.print("Enter Account No: ");

        accno = sc.next();

        System.out.print("Enter Account type: ");

        acc\_type = sc.next();

        System.out.print("Enter Name: ");

        name = sc.next();

        System.out.print("Enter Balance: ");

        balance = sc.nextLong();

    }

    public void showAccount()

    {

        System.out.println("Name of account holder: " + name);

        System.out.println("Account no.: " + accno);

        System.out.println("Account type: " + acc\_type);

        System.out.println("Balance: " + balance);

    }

    public void deposit()

    {

        long amt;

        System.out.println("Enter the amount you want to deposit: ");

        amt = sc.nextLong();

        balance = balance + amt;

    }

    public void withdrawal()

    {

        long amt;

        System.out.println("Enter the amount you want to withdraw: ");

        amt = sc.nextLong();

        if (balance >= amt) {

            balance = balance - amt;

            System.out.println("Balance after withdrawal: " + balance);

        } else {

            System.out.println("Your balance is less than " + amt + "\tTransaction failed...!!" );

        }

    }

    public boolean search(String ac\_no)

    {

        if (accno.equals(ac\_no)) {

            showAccount();

            return (true);

        }

        return (false);

    }

}

class bankservices

{

    public static void main(String args[])

    {

        Scanner sc = new Scanner(System.in);

        System.out.print("How many number of customers do you want to input? ");

        int n = sc.nextInt();

        BankingDetails C[] = new BankingDetails[n];

        for (int i = 0; i < C.length; i++)

        {

            C[i] = new BankingDetails();

            C[i].openAccount();

        }

        int ch;

        do {

            System.out.println("\n BANK SERVICES");

            System.out.println("1. Display all account details \n 2. Search by Account number\n 3. Deposit the amount \n 4. Withdraw the amount \n 5.Exit ");

            System.out.println("Enter your choice: ");

            ch = sc.nextInt();

            switch (ch)

                {

                    case 1:

                    for (int i = 0; i < C.length; i++)

                    {

                        C[i].showAccount();

                    }

                    break;

                    case 2:

                    System.out.print("Enter account no. you want to search: ");

                    String ac\_no = sc.next();

                    boolean found = false;

                    for (int i = 0; i < C.length; i++)

                    {

                        found = C[i].search(ac\_no);

                        if (found)

                        {

                            break;

                        }

                    }

                    if (!found)

                    {

                        System.out.println("Search failed! Account doesn't exist..!!");

                    }

                    break;

                    case 3:

                    System.out.print("Enter Account no. : ");

                    ac\_no = sc.next();

                    found = false;

                    for (int i = 0; i < C.length; i++)

                    {

                        found = C[i].search(ac\_no);

                        if (found)

                        {

                            C[i].deposit();

                            break;

                        }

                    }

                    if (!found)

                    {

                        System.out.println("Search failed! Account doesn't exist..!!");

                    }

                    break;

                    case 4:

                    System.out.print("Enter Account No : ");

                    ac\_no = sc.next();

                    found = false;

                    for (int i = 0; i < C.length; i++)

                    {

                        found = C[i].search(ac\_no);

                        if (found)

                        {

                            C[i].withdrawal();

                            break;

                        }

                    }

                    if (!found)

                    {

                        System.out.println("Search failed! Account doesn't exist..!!");

                    }

                    break;

                    case 5:

                    System.out.println("See you soon...");

                    break;

                }

        }

        while (ch != 5);

    }

}



Q2

import java.util.\*;

public class Inventory {

    float price ;

    int stock ;

    String authorname ,title,publisher ;

    Inventory(String t,String an,int st,String pub,float p)

    {

        price= p;

        stock=st ;

        authorname=an ;

        title=t ;

        publisher=pub;

    }

    public static void main(String[] args)

    {

        Scanner sc = new Scanner(System.in);

        Inventory c1=new Inventory("Computer Fundamentals","Gupta",200,"Prakashan",300);

        Inventory c2=new Inventory("Data Structures and Algorithms using C++","E.Balagurusami",150,"MChill",200);

        Inventory c3=new Inventory("The Object Oriented Thought Process","Matt",200,"Weisfeld",320);

        Inventory c4=new Inventory("The Development of Arab Mathematics: b/w Arithematic and Algebra","Roshdi",120,"Rashed",230);

        System.out.println("Enter Title:");

        String ti=sc.nextLine();

        System.out.println("Enter Author:");

        String Au=sc.nextLine();

        if((c1.title).equalsIgnoreCase(ti) && (c1.authorname).equalsIgnoreCase(Au) )

        {

            System.out.println("------Book Details-----") ;

            System.out.println("Title: "+c1.title) ;

            System.out.println("Author: "+c1.authorname) ;

            System.out.println("Publisher: "+c1.publisher) ;

            System.out.println("Price: "+c1.price) ;

            System.out.println("Stock: "+c1.stock) ;

            System.out.println("Enter req copies: ") ;

            float r=sc.nextFloat() ;

            if(c1.stock -(int)r>=0)

            {

                r=r\*c1.price;

                System.out.println("Total price: "+r) ;

            }

            else

            System.out.println("Required copies currently unavailable") ;

        }

        else if((c2.title).equalsIgnoreCase(ti) && (c2.authorname).equalsIgnoreCase(Au) )

        {

            System.out.println("------Book Details-----") ;

            System.out.println("Title: "+c2.title) ;

            System.out.println("Author: "+c2.authorname) ;

            System.out.println("Publisher: "+c2.publisher) ;

            System.out.println("Price: "+c2.price) ;

            System.out.println("Stock: "+c2.stock) ;

            System.out.println("Enter req copies: ") ;

            float r=sc.nextFloat() ;

            if(c2.stock -(int)r>=0)

            {

                r=r\*c2.price;

                System.out.println("Total price: "+r) ;

            }

            else

            System.out.println("Required copies not in stock") ;

        }

        else if((c3.title).equalsIgnoreCase(ti) && (c3.authorname).equalsIgnoreCase(Au) )

        {

            System.out.println("------Book Details-----") ;

            System.out.println("Title: "+c3.title) ;

            System.out.println("Author: "+c3.authorname) ;

            System.out.println("Publisher: "+c3.publisher) ;

            System.out.println("Price: "+c3.price) ;

            System.out.println("Stock: "+c3.stock) ;

            System.out.println("Enter req copies: ") ;

            float r=sc.nextFloat() ;

            if(c3.stock -(int)r>=0)

            {

                r=r\*c3.price;

                System.out.println("Total price: "+r) ;

            }

            else

            System.out.println("Required copies not in stock") ;

        }

        else if((c4.title).equalsIgnoreCase(ti) && (c4.authorname).equalsIgnoreCase(Au) )

        {

            System.out.println("------Book Details-----") ;

            System.out.println("Title: "+c4.title) ;

            System.out.println("Author: "+c4.authorname) ;

            System.out.println("Publisher: "+c4.publisher) ;

            System.out.println("Price: "+c4.price) ;

            System.out.println("Stock: "+c4.stock) ;

            System.out.println("Enter req copies: ") ;

            float r=sc.nextFloat() ;

            if(c4.stock -(int)r>=0)

            {

                r=r\*c4.price;

                System.out.println("Total price: "+r) ;

            }

            else

            System.out.println("Required copies not in stock") ;

        }

        else

        System.out.println("Book Not found ") ;

    }

}

Q3

import java.util.Arrays;

import java.util.Scanner;

public class Library {

    String authorname ,title,publisher ;

    String issue;

    Library(String t,String an,String pub,String id)

    {

        authorname=an ;

        title=t ;

        publisher=pub ;

        issue=id ;

    }

    Library(String t,String an,String pub)

    {

        authorname=an ;

        title=t ;

        publisher=pub ;

        issue="Null" ;

    }

    void issuebook()

    {

    }

    public static void main(String[] args)

    {

        Library [] c ;

        c = new Library[17];

        Scanner sc = new Scanner(System.in);

        c[1]=new Library("Fundamentals of C","Deepak","Balaji") ;

        c[2]=new Library("Fundamentals of C++","Dheeraj","Balaji") ;

        c[3]=new Library("Concepts of Java","Lalu","Balaji","20C3181") ;

        c[4]=new Library("Easy Cp","Bhiya","Balaji","20C3182") ;

        c[5]=new Library("Concepts of C","Janvi","Retry","20C2183") ;

        c[6]=new Library("Getting Ready for CS","Shastri","Cengage") ;

        c[7]=new Library("HTMl The Basics","Abhishek","Cengage") ;

        c[8]=new Library("OOPS Made Easy","Vivek","Balaji") ;

        c[9]=new Library("Fundamentals of Node","Deepak","Balaji") ;

        c[10]=new Library("Starting with CP","Dheeraj & Bhiyu","Arihant") ;

        c[11]=new Library("DS in Java","Lata Parikh","Balaji") ;

        c[12]=new Library("Algorithms CLRS","CLRS","Pearson") ;

        c[13]=new Library("SQL Database","Joseph","ReLearn","203001") ;

        c[14]=new Library("Concepts of CSS","Deepak","Cengage") ;

        c[15]=new Library("Wed Dev Basics","Ahirvar","Balaji","20C3184") ;

        c[16]=new Library("OOPS Advanced","Vivek","Pearson") ;

        System.out.println("Enter your ID:") ;

        String id=sc.nextLine() ;

        System.out.println("Enter Title of Book You Want to Issue:") ;

        String T=sc.nextLine() ;

        for(int i=1;i<17;i++)

        {

            if((c[i].issue).equalsIgnoreCase(id))

            {

                System.out.println("A Book is Already issued by Your Id:"+c[i].title) ;

                break ;

            }

            else if((c[i].title).equalsIgnoreCase(T) && c[i].issue=="Null")

            {

                c[i].issue=id ;

                System.out.println("Book Issued by:"+id);

            }

        }

        System.out.println("Want to Return a Book? ") ;

        Scanner s=new Scanner(System.in);

        String t=s.nextLine() ;

        if(t.equalsIgnoreCase("y"))

        {

            System.out.println("Enter Title of Book You Want to Return:") ;

        }

        String R=s.nextLine() ;

        System.out.println("Enter No. of Days late:") ;

        int n=s.nextInt();

        System.out.println("Fine: "+n\*5) ;

        for(int i=1;i<17;i++)

        {

            if((c[i].title).equalsIgnoreCase(R))

            {

                c[i].issue="Null" ;

            }

        }

        System.out.println("The Book Record is:");

        for(int i=1; i<17; i++)

        {

            System.out.println("Title:" + c[i].title);

            System.out.println("Author:" + c[i].authorname);

            System.out.println("Publisher:" + c[i].publisher);

            System.out.println("Issued By:" + c[i].issue);

            System.out.println();

        }

    }

}

Q4

import java.util.Arrays;

import java.util.Scanner;

public class MethodoverLoading {

    void areaandperi(float a)

        {

            System.out.println("Area of Square is : "+ Math.pow(a,2));

            System.out.println("Perimeter of Square is : "+ 4\*a);

            System.out.println();

        }

        void areaandperi(float a,float b)

        {

            System.out.println("Area of Rectangle is : "+a\*b);

            System.out.println("Perimeter of Rectangle is : "+ 2\*(a+b));

            System.out.println();

        }

        void areaandperi(double a)

        {

            System.out.println("Area of Circle is : "+ 3.14\*(Math.pow(a,2)));

            System.out.println("Perimeter of Circle is : "+ 3.14\*2\*a);

            System.out.println();

        }

        void areaandperi(double a,double b)

        {

            System.out.println("Area of Cone is : "+ 3.14\*a\*(a+b));

            System.out.println("Perimeter of Cone is : "+ 3.14\*2\*a);

            System.out.println();

        }

        void areaandperi(float a,float b,double h)

        {

            System.out.println("Area of parallelogram is : "+ b\*h);

            System.out.println("Perimeter of Parallelogram is : "+ 2\*(a+b));

            System.out.println();

        }

        public static void main(String[] args)

        {

            MethodoverLoading a=new MethodoverLoading() ;

            a.areaandperi(4) ;

            a.areaandperi(11,4) ;

            a.areaandperi(4.0) ;

            a.areaandperi(4.0,5.0) ;

            a.areaandperi(5,2,6.0) ;

        }

}

Q5

import java.util.Arrays;

import java.util.Scanner;

class coordinates

{

    public int x;

    public int y;

};

public class Rectangle {

    Scanner sc= new Scanner(System.in);

    coordinates bl=new coordinates();

    coordinates br=new coordinates();

    coordinates tl=new coordinates();

    coordinates tr=new coordinates();

    void cords()

    {

        System.out.println("Enter the Coords of Bottom Left Corner : ");

        System.out.print("x: ");

        bl.x=sc.nextInt();

        System.out.print("y: ");

        bl.y=sc.nextInt();

        System.out.println("Enter the Coords of Top Right Corner : ");

        System.out.print("x: ");

        tr.x=sc.nextInt();

        System.out.print("y: ");

        tr.y=sc.nextInt();

    }

    Rectangle()

    {

        cords();

        tl.x=bl.x;

        tl.y=tr.y;

        br.x=tr.x;

        br.y=bl.y;

    }

    Rectangle(int a)

    {

    }

    void Displayc()

    {

        System.out.print("Bottom left : ("+bl.x+","+bl.y+")"+"Top right : ("+tr.x+","+tr.y+")") ;

    }

    Rectangle(Rectangle a,Rectangle b,Rectangle c,Rectangle d)

    {

        int p=0 ;

        Rectangle e=new Rectangle(p) ;

        e.bl.x=Math.min(a.bl.x,b.bl.x) ;

        e.bl.x=Math.min(e.bl.x,c.bl.x) ;

        e.bl.x=Math.min(e.bl.x,d.bl.x) ;

        e.tl.x=e.bl.x ;

        e.bl.y=Math.min(a.bl.y,b.bl.y) ;

        e.bl.y=Math.min(e.bl.y,c.bl.y) ;

        e.bl.y=Math.min(e.bl.y,d.bl.y) ;

        e.br.y=e.bl.y ;

        e.tr.x=Math.max(a.tr.x,b.tr.x) ;

        e.tr.x=Math.max(e.tr.x,c.tr.x) ;

        e.tr.x=Math.max(e.tr.x,d.tr.x) ;

        e.br.x=e.tr.x ;

        e.tr.y=Math.max(a.tr.y,b.tr.y) ;

        e.tr.y=Math.max(e.tr.y,c.tr.y) ;

        e.tr.y=Math.max(e.tr.y,d.tr.y) ;

        e.tl.y=e.tr.y;

        e.Displayc();

    }

    public static void main(String[] args)

    {

        Rectangle a=new Rectangle() ;

        Rectangle b=new Rectangle() ;

        Rectangle c=new Rectangle() ;

        Rectangle d=new Rectangle() ;

        System.out.println("The Defining points of Enclosing Rectangle are :");

        Rectangle e=new Rectangle(a,b,c,d) ;

    }

}

Q6

import java.util.Arrays;

import java.util.Scanner;

import javax.lang.model.util.ElementScanner14;

public class mcmlength {

    int m,cm,mm,r;

    mcmlength(int a,int b,int c)

    {

        m = a;

        cm = b;

        mm = c;

        r = (m\*1000 ) + (cm\*10) + mm;

    }

    mcmlength(int h)

    {

        int m,cm,mm,r;

    }

    void backto(int n)

    {

        int M = n/1000;

        n = n%1000;

        int Ce = n/10;

        n = n%10;

        m= M;

        cm = Ce;

        mm = n;

    }

    void Display(mcmlength a)

    {

        System.out.println(a.m+" meter "+a.cm+" centimeter "+a.mm+" milimeter ");

    }

    void subs(mcmlength a1,mcmlength a2)

    {

        int p = 0;

        mcmlength y=new mcmlength(p);

        y.r = a1.r - a2.r;

        y.backto(y.r);

        Display(y);

    }

    void add(mcmlength a1,mcmlength a2)

    {

        int p = 0;

        mcmlength y = new mcmlength(p);

        y.r = a1.r + a2.r;

        y.backto(y.r);

        Display(y);

    }

    void Mul(mcmlength a1,int n)

    {

        mcmlength y = new mcmlength(n\*a1.m,n\*a1.cm,n\*a1.mm);

        y.backto(y.r);

        Display(y);

    }

    void Div(mcmlength a1,int n)

    {

        int p = 0;

        mcmlength y = new mcmlength(p);

        y.r = (a1.r /n);

        y.backto(y.r);

        Display(y);

    }

    void area(mcmlength a1,mcmlength a2)

    {

        int p=0;

        mcmlength y = new mcmlength(p);

        y.r = (a1.r)\*(a2.r);

        System.out.println("Area is: "+y.r+" sq mm");

    }

    void compare(mcmlength a1,mcmlength a2)

    {

        if(a1.r>a2.r)

        {

            System.out.print("Object "+a1.m+"m "+a1.cm+"cm "+a1.mm+"mm is bigger than "+a2.m+"m "+a2.cm+"cm "+a2.mm+"mm ") ;

        }

        else

        {

            System.out.print("Object "+a2.m+"m "+a2.cm+"cm "+a2.mm+"mm is bigger than "+a1.m+"m "+a1.cm+"cm "+a1.mm+"mm ");

        }

    }

    public static void main(String[] args)

    {

        Scanner sc= new Scanner(System.in);

        int m1,m2,cm1,cm2,mm1,mm2;

        System.out.println("Enter value for object 1 in Meter ,Centimeter,Millimeter ");

        m1=sc.nextInt();

        cm1=sc.nextInt();

        mm1=sc.nextInt();

        System.out.println("Enter value for object 2 in Meter ,Centimeter,Millimeter ");

        m2=sc.nextInt();

        cm2=sc.nextInt();

        mm2=sc.nextInt();

        mcmlength a1=new mcmlength(m1,cm1,mm1);

        mcmlength a2=new mcmlength(m2,cm2,mm2);

        System.out.print("Ans of addition is : ");

        a1.add(a1,a2);

        System.out.print("Ans of substraction is : ");

        a1.subs(a1,a2);

        System.out.print("Enter no. thorugh which Multiplication is to ber performed with object1 ");

        m1=sc.nextInt();

        System.out.print("Ans of Mulitiplication is : ");

        a1.Mul(a1, m1);

        System.out.print("Enter no. thorugh which Division is to ber performed with object1 ");

        m1=sc.nextInt();

        System.out.print("Ans of Division is : ");

        a1.Div(a1, m1);

        System.out.print("Ans of area enclosed by object 1 and object 2 is : ");

        a1.area(a1, a2);

        System.out.print("Ans of Comparison is : ");

        a1.compare(a1, a2);

    }

}

Q7

import java.util.Arrays;

import java.util.Scanner;

public class tkgweight {

    int t,kg,g;

    int r;

    tkgweight(int a,int b,int c)

    {

        t=a;

        kg=b;

        g=c;

        r=(t \* 1000000) + (kg \* 1000) + g;

    }

    tkgweight(int h)

    {

        int t,kg,g;

        int r;

    }

    void backto(int n)

    {

        int M = n/1000000;

        n = n%1000000;

        int Ce = n/1000;

        n = n%1000;

        t = M;

        kg = Ce;

        g = n;

    }

    void Display(tkgweight a)

    {

        System.out.println(a.t+" Tons "+a.kg+" Kilograms "+a.g+" Grams ");

    }

    void subs(tkgweight a1,tkgweight a2)

    {

        int p= 0;

        tkgweight y = new tkgweight(p);

        y.r = a1.r - a2.r;

        y.backto(y.r);

        Display(y);

    }

    void add(tkgweight a1,tkgweight a2)

    {

        int p= 0;

        tkgweight y=new tkgweight(p);

        y.r = a1.r + a2.r;

        y.backto(y.r);

        Display(y);

    }

    void Mul(tkgweight a1,int n)

    {

        tkgweight y=new tkgweight(n\*a1.t,n\*a1.kg,n\*a1.g);

        y.backto(y.r);

        Display(y);

    }

    void Div(tkgweight a1,int n)

    {

        int p=0;

        tkgweight y=new tkgweight(p);

        y.r=(a1.r /n);

        y.backto(y.r);

        Display(y);

    }

    void compare(tkgweight a1,tkgweight a2)

    {

        if(a1.r>a2.r)

        {

            System.out.print("Object "+a1.t+"ton "+a1.kg+"kg "+a1.g+"g is bigger than "+a2.t+"ton "+a2.kg+"kg "+a2.g+"g ");

        }

        else

        {

            System.out.print("Object "+a2.t+"ton "+a2.kg+"kg "+a2.g+"g is bigger than "+a1.t+"ton "+a1.kg+"kg "+a1.g+"g ");

        }

    }

    public static void main(String[] args)

    {

        Scanner sc= new Scanner(System.in);

        int m1,m2,cm1,cm2,mm1,mm2;

        System.out.println("Enter Value for Object 1 in Ton,Kilogram,Gram:");

        m1=sc.nextInt();

        cm1=sc.nextInt();

        mm1=sc.nextInt();

        System.out.println("Enter Value for Object 2 in Ton,Kilogram,Gram:");

        m2=sc.nextInt();

        cm2=sc.nextInt();

        mm2=sc.nextInt();

        tkgweight a1=new tkgweight(m1,cm1,mm1);

        tkgweight a2=new tkgweight(m2,cm2,mm2);

        System.out.print("Ans of Addition is:") ;

        a1.add(a1,a2);

        System.out.print("Ans of Substraction is:");

        a1.subs(a1,a2);

        System.out.print("Enter no. Thorugh which Multiplication is to be Performed with Object1:");

        m1=sc.nextInt();

        System.out.print("Ans of Multiplication is:");

        a1.Mul(a1, m1);

        System.out.print("Enter no. thorugh which Division is to be Performed with Object1:");

        m1=sc.nextInt();

        System.out.print("Ans of Division is:");

        a1.Div(a1, m1);

        System.out.print("Ans of Comparison is:");

        a1.compare(a1, a2);

    }

}

Q8