1. WAP to design a class for Bank where user can calculate the difference between Si and CI by passing the inputs to a method. The inputs will be P,RI and T.

SI=PRT/100

CI=A-P

A=P\*(1+r/100)T.

public class Bank

{

static void si(int p,int r,int t)

{

System.out.println("Simple intrest (SI) :"+((p\*t\*r)/100));

}

static void ci(double p,double r,double t)

{

double A;

A=(p\* (Math.pow((1+r/100),t)));

//System.out.println(A);

System.out.println("Compound Intrest (CI) :"+(A-p));

System.out.println("The compound intrest for "+t+"years is Rs."+(A-p));

}

public static void main(String[] args)

{

Bank aobj=new Bank();

si(4000,7,2);

ci(4000,7,2);

}

}

2.WAP to calculate the value of a given expression:

X=a2+b2/(a-b) where the value of a and b will be provided by user.

public class EXpression

{

static void expression(int a,int b)

{

int X;

X=(int)((Math.pow(a,2)+(Math.pow(b, 2))/(a-b)));

System.out.println("The given expression is :(a\*a+b\*b)/a-b ");

System.out.println("The value of a :"+a);

System.out.println("The value of b :"+b);

System.out.println("The given expression is :(a\*a+b\*b)/a-b is : "+X);

}

public static void main(String[] args)

{

expression(6,4);

}

}

1. A person went from Hyderabad to Vizag for 642 km at a speed of 80km/hr, after three days he came back at a speed of 60 km/hr which is less than the actual speed. WAP for the embedded system installed in the car where he can see:

i)total distance covered

ii)total time taken in drive

iii)average speed during the drive

public class Car

{

public static void main(String[] args)

{

int distance=642;

System.out.println("A person went from Hydrabad to Vizag for "+distance+"km");

int speed1=80;

System.out.println("At speed of "+speed1+"km/hr");

int speed2=60;

System.out.println("After 3 days he came back at a speed of "+speed2+" km/hr");

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

System.out.println("Total distance covered "+(distance+distance));

System.out.println("Total time taken :"+((distance/speed1)+(distance/speed2))+"hrs");

System.out.println("average speed during the drive :"+(distance+distance)/((distance/speed1)+(distance/speed2))+"km/hr");

}

}

1. WAP to input two unequal integers and display them before and after swapping them in variables in different ways:

i).using third variable

ii). Without using third variable

public class Swapping

{

static void usingThirdVar(int a,int b)

{

int c;

c=a;

a=b;

b=c;

System.out.println("a value is :"+a);

System.out.println("b value is :"+b);

}

static void withoutthirdvar(int a,int b)

{

a=a+b;

b=a-b;

a=a-b;

System.out.println("a value is :"+a);

System.out.println("b value is :"+b);

}

public static void main(String[] args)

{

int a=Integer.parseInt(args[0]);

int b=Integer.parseInt(args[1]);

System.out.println("----------Before swapping----------");

System.out.println("a value is :"+a);

System.out.println("b value is :"+b);

System.out.println("----------After swapping----using 3rd variable------");

usingThirdVar(a,b);

System.out.println("----------After swapping-------without using 3rd variable---");

withoutthirdvar(a,b);

}

}

1. WAP to store two integers and display the minimum among them using PDM.

**import** java.util.Scanner;

**public** **class** ClassA

{

**public** **static** **void** main(String[] args)

{

Scanner sc=**new** Scanner(System.***in***);

System.***out***.print("Enter 1st number :");

**int** a=sc.nextInt();

System.***out***.print("Enter 2nd number :");

**int** b=sc.nextInt();

System.***out***.println("minimun number is :"+Math.*min*(a, b));

}

}

1. WAP to store two integers and display the maximum among them using PDM.

**import** java.util.Scanner;

**public** **class** ClassA

{

**public** **static** **void** main(String[] args)

{

Scanner sc=**new** Scanner(System.***in***);

System.***out***.print("Enter 1st number :");

**int** a=sc.nextInt();

System.***out***.print("Enter 2nd number :");

**int** b=sc.nextInt();

System.***out***.println("minimun number is :"+Math.*max*(a, b));

}

}

1. WAP to store two integers, one is the base and the other is degree.Use PDM to display the result of base raised to the power of degree.

**import** java.util.Scanner;

**public** **class** ClassA

{

**public** **static** **void** main(String[] args)

{

Scanner sc=**new** Scanner(System.***in***);

System.***out***.print("Enter 1st number :");

**int** a=sc.nextInt();

System.***out***.print("Enter 2nd number :");

**int** b=sc.nextInt();

System.***out***.println("minimun number is :"+(**int**)Math.*pow*(a, b));

}

}

1. WAP to input an integer and display its square root.

**import** java.util.Scanner;

**public** **class** ClassA

{

**public** **static** **void** main(String[] args)

{

Scanner sc=**new** Scanner(System.***in***);

System.***out***.print("Enter 1st number :");

**int** a=sc.nextInt();

System.***out***.println("minimun number is :"+Math.*sqrt*(a));

sc.close();

}

}

1. WAP to input an integer and display its cube root.

**import** java.util.Scanner;

**public** **class** ClassA

{

**public** **static** **void** main(String[] args)

{

Scanner sc=**new** Scanner(System.***in***);

System.***out***.print("Enter 1st number :");

**int** a=sc.nextInt();

System.***out***.println("minimun number is :"+Math.*cbrt*(a));

sc.close();

}

}

*INPUT :*

Enter 1st number :125

OUTPUT :

minimun number is :5.0

1. WAP to input an integer and display its absolute value.

**import** java.util.Scanner;

**public** **class** ClassA

{

**public** **static** **void** main(String[] args)

{

Scanner sc=**new** Scanner(System.***in***);

System.***out***.print("Enter 1st number :");

**int** a=sc.nextInt();

System.***out***.print("Enter 2nd number :");

**int** b=sc.nextInt();

System.***out***.println("printing absolute values :");

System.***out***.println("1St number is :"+Math.*abs*(a));

System.***out***.println("2nd number is :"+Math.*abs*(b));

sc.close();

}

}

*INPUT :*

Enter 1st number :-50

Enter 2nd number :60

OUTPUT :

printing absolute values :

1St number is :50

2nd number is :60

1. What will be the result for: Math.log(6.25)

**import** java.util.Scanner;

**public** **class** ClassA

{

**public** **static** **void** main(String[] args)

{

Scanner sc=**new** Scanner(System.***in***);

System.***out***.print("Enter 1st number :");

**double** a=sc.nextDouble();

System.***out***.println("a value is :"+a);

System.***out***.print(" The result for: Math.log("+a+") is :"+Math.*log*(a));

sc.close();

}

}

*INPUT :*

Enter 1st number :6.25

OUTPUT :

a value is :6.25

The result for: Math.log(6.25) is :1.8325814637483102

1. .What will be the result for:
2. Math.round(9.0)
3. Math.round(9.5)
4. Math.round(-9.5)
5. Math.rint(9.5)
6. Math.round(-9.5)

What is the difference in rint() and round()?

1. Math.ceil(9.5)
2. Math.ceil(-9.5)
3. Math.floor(3.142)
4. Math.floor(-3.142)

**public** **class** ClassA

{

**public** **static** **void** main(String[] args)

{

System.***out***.println("i.Math.round(9.0) :"+Math.*round*(9.0));

System.***out***.println("ii.Math.round(9.5) :"+Math.*round*(9.5));

System.***out***.println("iii.Math.round(-9.5):"+Math.*round*(-9.5));

System.***out***.println("iv.Math.rint(9.5) :"+Math.*rint*(9.5));

System.***out***.println("v.Math.round(-9.5) :"+Math.*round*(-9.5));

System.***out***.println("vi.Math.ceil(9.5) :"+Math.*ceil*(9.5));

System.***out***.println("vii.Math.ceil(-9.5) :"+Math.*ceil*(-9.5));

System.***out***.println("viii.Math.floor(3.142):"+Math.*floor*(3.142);

System.***out***.println("ix.Math.floor(-3.142):"+Math.*floor*(3.142));

}

}

OUTPUT :

i.Math.round(9.0) :9

ii.Math.round(9.5) :10

iii.Math.round(-9.5):-9

iv.Math.rint(9.5) :10.0

v.Math.round(-9.5) :-9

vi.Math.ceil(9.5) :10.0

vii.Math.ceil(-9.5) :-9.0

viii.Math.floor(3.142):3.0

ix.Math.floor(-3.142) :-4.0

1. WAP to generate a random number between 0 and 1.

**public** **class** ClassA

{

**public** **static** **void** main(String[] args)

{

System.***out***.println(“Math.random() :”+Math.*random*());

}

}

OUTPUT :

Math.random() :0.5958418209231614

1. WAP to input any three integers and display the greatest among them.

**public** **class** ClassA

{

**public** **static** **void** main(String[] args)

{

System.***out***.println("Input three numbers .");

Scanner sc=**new** Scanner(System.***in***);

System.***out***.print("Enter 1st number :");

**int** a=sc.nextInt();

System.***out***.print("Enter 2nd number :");

**int** b=sc.nextInt();

System.***out***.print("Enter 3rd number :");

**int** c=sc.nextInt();

**if**(a>b&&a>c)

System.***out***.println("1st number is grestest among three :"+a);

**else** **if**(b>a&&b>c)

System.***out***.println("2nd number is grestest among three :"+b);

**else**

System.***out***.println("3rd number is grestest among three :"+c);

sc.close();

}

}

*INPUT :*

Input three numbers .

Enter 1st number :50

Enter 2nd number :90

Enter 3rd number :100

OUTPUT :

3rd number is grestest among three :100

1. WAP to input the length, breadth and height of a cuboid . Calculate and display the diagonal of cuboid.

**import** java.util.Scanner;

**public** **class** ClassA

{

**public** **static** **void** main(String[] args)

{

Scanner sc=**new** Scanner(System.***in***);

System.***out***.print("Input the length of a cuboid :");

**int** l=sc.nextInt();

System.***out***.print("Input the breadth of a cuboid :");

**int** b=sc.nextInt();

System.***out***.print("Input the height of a cuboid :");

**int** h=sc.nextInt(); //formula √(l2 + w2 + h2).

System.***out***.println("Diagonal of cuboid:"+Math.*sqrt*((l\*l)+(b\*b)+(h\*h)));

sc.close();

}

}

1. WAP to input a number, calculate and display the square root and cube root of the number. Display the result by rounding up the result.

**import** java.util.Scanner;

**public** **class** ClassA

{

**public** **static** **void** main(String[] args)

{

Scanner sc=**new** Scanner(System.***in***);

System.***out***.print("Input a number :");

**double** a=sc.nextDouble();

System.***out***.println("Number :"+a);

System.***out***.println("Square root :"+Math.*sqrt*(a));

System.***out***.println("Cubw root :"+Math.*cbrt*(a));

System.***out***.println("Rounding up of Square root :"+Math.*round*(Math.*sqrt*(a)));

System.***out***.println("Rounding up of Cube root :"+Math.*round*(Math.*cbrt*(a)));

sc.close();

}

}

*INPUT :*

Input a number :128

OUTPUT :

Number :128.0

Square root :11.313708498984761

Cubw root :5.039684199579493

Rounding up of Square root :11

Rounding up of Cube root :5

1. WAP to tribute The Great Indian Mathematician Srinivasa Ramanujan, where we can input the values for a,b,c and display the Discriminant of the quadratic equation.

**import** java.util.Scanner;

**public** **class** ClassA

{

**public** **static** **void** main(String[] args)

{

Scanner sc=**new** Scanner(System.***in***);

System.***out***.print("Input 1st value :");

**int** a=sc.nextInt();

System.***out***.print("Input 2nd value:");

**int** b=sc.nextInt();

System.***out***.print("Input 3rd value :");

**int** c=sc.nextInt();//b2 – 4ac > 0

System.***out***.println("Discriminant of the quadratic equation :"+(Math.*pow*(b, 2)-(4\*a\*c)));

sc.close();

}

}

*INPUT :*

Input 1st value :1

Input 2nd value:4

Input 3rd value :7

OUTPUT :

Discriminant of the quadratic equation :-12.0

1. WAP to input the three angles and display whether we can generate a triangle or not.

**import** java.util.Scanner;

**public** **class** ClassA

{

**public** **static** **void** main(String[] args)

{

Scanner sc=**new** Scanner(System.***in***);

System.***out***.println("Input three angles :");

System.***out***.print("Input 1st angle :");

**int** a=sc.nextInt();

System.***out***.print("Input 2nd angle:");

**int** b=sc.nextInt();

System.***out***.print("Input 3rd third :");

**int** c=sc.nextInt();

**int** sum=a+b+c;

**if**(sum==180)

System.***out***.println("It is a triangle.");

**else**

System.***out***.println("It is not a triangle");

sc.close();

}

}

*INPUT :*

Input 1st angle :90

Input 2nd angle:45

Input 3rd third :45

OUTPUT :

It is a triangle.

1. WAP to input two integers and display:
2. Their sum
3. Their concatenation after converting them into String using toString()

**import** java.util.Scanner;

**public** **class** ClassA

{

**public** **static** **void** main(String[] args)

{

Scanner sc=**new** Scanner(System.***in***);

System.***out***.print("Input 1st integer :");

**int** num1=sc.nextInt();

System.***out***.print("Input 2nd integer :");

**int** num2=sc.nextInt();

//sum of two integers

**int** sum=num1+num2;

System.***out***.println("Sum of "+num1+" and "+num2+" :"+sum);

// Convert integers to strings using toString()

String strNum1 = Integer.*toString*(num1);

String strNum2 = Integer.*toString*(num2);

// Concatenate the strings

String concatenatedString = strNum1.concat(strNum2);

// Display the concatenated string

System.***out***.println("Concatenated string: " + concatenatedString);

sc.close();

}

}

*INPUT :*

Input 1st integer :10

Input 2nd integer :30

OUTPUT :

Sum of 10 and 30 :40

Concatenated string: 1030

1. WAP to input a number in form of String and display its cube.

**import** java.util.Scanner;

**public** **class** ClassA

{

**public** **static** **void** main(String[] args)

{

Scanner sc=**new** Scanner(System.***in***);

System.***out***.print("Input 1st integer :");

String num=sc.next();

**int** num1=Integer.*parseInt*(num);

System.***out***.println("Cube of "+num1+" :"+(num1\*num1\*num1));

sc.close();

}

}

*INPUT :*

Input 1st integer :10

OUTPUT :

Cube of 10 :1000