

javac filename.java
java filename.



Program - 1

Develop a Java program that prints all real solutions to the quadratic equation $am^2 + bm + c = 0$. Read in a, b, c and use the quadratic formula.

```

import java.util.*;
import java.math.*;
public class quadratic
{
    public static void main (String args[])
    {
        Scanner in = new Scanner (System.in);
        System.out.println ("Enter the value of a");
        double a = in.nextDouble();
        System.out.println ("Enter the value of b");
        double b = in.nextDouble();
        System.out.println ("Enter the value of c");
        double c = in.nextDouble();
        if (a != 0)
        {
            double d = b * b - 4 * a * c;
            if (d > 0.0)
            {
                double r1 = (-b + Math.sqrt(d)) / (2.0 * a));
                double r2 = (-b - Math.sqrt(d)) / (2.0 * a));
                System.out.println ("The roots are real & distinct");
                System.out.println ("The roots are " + r1 + " and " + r2);
            }
            else if (d == 0.0)
            {
                double r1 = -b / (2.0 * a));
            }
        }
    }
}

```

```
System.out.println("The roots are real and equal");  
System.out.println("The root is "+r1);
```

```
else
```

```
{
```

```
System.out.println("The roots are imaginary");
```

```
{
```

```
}
```

```
else
```

```
{
```

```
System.out.println("Invalid Inputs");
```

```
}
```

```
}
```

```
}
```

Outputs.

1. Enter value of a

1

Enter value of b

2

Enter value of c

3

The roots are imaginary.

2. Enter value of a

1

Enter value of b

2

Enter value of c

1

The roots are real and equal.

The root is -1.0

3. Enter value of a

1

Enter value of b

1

Enter value of c

1

The roots are imaginary.

4. Enter value of a

1

Enter value of b

5

Enter value of c

-3

The roots are real and distinct.

The roots are -1.958611 and -8.09138

5. Enter value of a

0

Enter value of b

1

Enter value of c

2

Invalid Inputs.

*Natalia
18/11/2021*

Command Prompt

```
Microsoft Windows [Version 10.0.19044.2251]
(c) Microsoft Corporation. All rights reserved.

C:\Users\admin>cd C:\Users\admin\Desktop\1BM21CS058-Dikxya
C:\Users\admin\Desktop\1BM21CS058-Dikxya>javac Quadratic.java
C:\Users\admin\Desktop\1BM21CS058-Dikxya>java Quadratic
Enter the value of a
1
Enter the value of b
2
Enter the value of c
3
The roots are imaginary

C:\Users\admin\Desktop\1BM21CS058-Dikxya>java Quadratic
Enter the value of a
1
Enter the value of b
2
Enter the value of c
1
The roots are real and equal
The root is -1.0

C:\Users\admin\Desktop\1BM21CS058-Dikxya>java Quadratic
Enter the value of a
1
Enter the value of b
```

2 Command Prompt

```
1  
Enter the value of c  
1  
The roots are imaginary
```

```
C:\Users\admin\Desktop\1BM21CS058-Dikxya>java Quadratic  
Enter the value of a  
1  
Enter the value of b  
5  
Enter the value of c  
-3  
The roots are real and distinct  
The roots are -1.9586187348508903 and -8.04138126514911
```

```
C:\Users\admin\Desktop\1BM21CS058-Dikxya>java quadratic  
Error: Could not find or load main class quadratic
```

```
C:\Users\admin\Desktop\1BM21CS058-Dikxya>_
```

details and a method to calculate SGPA of a student.

Program-2

Develop a Java program to create a class student with members usn, name an array credits and an array marks . Include methods to accept and display

```
import java.util.Scanner;
```

```
class student {
```

```
    void display (String name, String usn)
```

```
{
```

```
    System.out.println("USN of the student "+usn);
```

```
    System.out.println ("Name of the student "+name);
```

```
}
```

```
    void calculatesgpa (double []marks, double []credits,
```

```
    int number)
```

```
{
```

```
    double gradepoints []= new double [number];
```

```
    double sgpa , sum=0, tnum=0;
```

```
    for (int i=0; i<number; i++)
```

```
{
```

```
    if (marks [i] >= 90)
```

```
        gradepoints [i] = 10;
```

```
    else if (marks [i] >= 80)
```

```
        gradepoints [i] = 9;
```

```
    else if (marks [i] >= 70)
```

```
        gradepoints [i] = 8;
```

```
    else if (marks [i] >= 60)
```

```
        gradepoints [i] = 7;
```

```
    else if (marks [i] >= 50)
```

```
        gradepoints [i] = 6;
```

```
    else if (marks [i] >= 40)
```

```
        gradepoints [i] = 4;
```

```
    else
```

```
        gradepoints [i] = 0;
```

3

```
for (int i=0; i<number; i++)
```

{

```
    sum = credits[i] * gradepoints[i];
```

}

```
for (int i=0; i<number; i++)
```

{

```
    tnum = credits[i];
```

}

```
sgpa = sum / tnum;
```

```
System.out.println ("SGPA is " + sgpa);
```

}

}

```
class sgpa {
```

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

```
        Scanner s = new Scanner (System.in);
```

```
        System.out.print ("Enter name and usn of student");
```

```
        String name = s.next();
```

```
        String usn = s.next();
```

```
        Student s1 = new Student();
```

```
        System.out.print ("Enter the number of courses");
```

```
        int number = s.nextInt();
```

```
        double credits [] = new double [number];
```

```
        double marks [] = new double [number];
```

```
        for (int i=0; i<number; i++)
```

{

```
            System.out.print ("Credit of subject " + (i+1) + ": ");
```

```
            credits [i] = s.nextDouble();
```

```
            System.out.print ("Marks of subject " + (i+1) + ": ");
```

```
            marks [i] = s.nextDouble();
```

}

```
s1.display (name, usn);
```

S1. calculatesgpa(marks, credits, number);

3

3

Output.

Enter name and usn of students

Dikshya IBM21CS058

Enter the number of courses

4

credits of subject 1: 4

Mark of subject 1: 82

credit of subject 2: 3

Mark of subject 2: 79

credit of subject 3: 3

Mark of subject 3: 87

credit of subject 4: 4

Marks of subject 4: 66

USN of the student IBM21CS058

Name of the student Dikshya

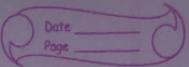
SGPA is 8.2142857

Neeling
2/12/2021

```
Microsoft Windows [Version 10.0.19044.2251]
C) Microsoft Corporation. All rights reserved.

C:\Users\admin>cd C:\Users\admin\Desktop\1BM21CS058-Dikxya>javac Sgpa.java
C:\Users\admin\Desktop\1BM21CS058-Dikxya>java Sgpa
Enter name and usn of students
Dikshya 1bm21cs058
Enter the number of courses
4
credits of subjects1:4
Marks of subject1:
82
credits of subjects2:3
Marks of subject2:
79
credits of subjects3:3
Marks of subject3:
87
credits of subjects4:4
Marks of subject4:
66
USN of the student1bm21cs058
Name of the studentDikshya
SGPA is8.214285714285714
C:\Users\admin\Desktop\1BM21CS058-Dikxya>
```

details of object. Include a ToString() method that could display the complete details of book. Develop a Java program to create a book object.



Program - 3 (Create a class Book which contains name, author, price, num - pages. Include a constructor to set the values for members. Include method to set & get the values)

```
import java.util.*;
```

```
import java.lang.*;
```

```
class Book
```

```
{
```

```
    String name, author; int price, num - pages;
```

```
    void getval()
```

```
{
```

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

```
    System.out.println ("Enter the bookname");
```

```
    name = sc.next();
```

```
    System.out.println ("Enter author name");
```

```
    author = sc.next();
```

```
    System.out.println ("Enter price");
```

```
    Price = sc.nextInt();
```

```
    System.out.println ("Enter No. of pages");
```

```
    num - pages = sc.nextInt();
```

```
}
```

```
    public String toString () → returns the current  
    { → string as it is without any change
```

```
{
```

```
    return name + " " + author + " " + price + " " +
```

```
    num - pages + " ";
```

```
}
```

```
    void display (Book o)
```

```
{
```

```
    System.out.println(o);
```

```
3
```

```
3
```

```
class Bookvck
```

```
{
```

```
public static void main (String args [ ])  
{  
    Scanner in = new Scanner (System . in );  
    System . out . println ("Enter the no. of book  
    objects ");  
    int n = in . nextInt ();  
    Book [ ] ob = new Book [n];  
    for (int i = 0; i < n; i++)  
        ob [i] = new Book ();  
    for (int i = 0; i < n; i++)  
        ob [i] . getVal ();  
    for (int i = 0; i < n; i++)  
        ob [i] . display (ob [i]);  
}
```

Output.

Enter the no. of book objects

1

Enter the book name

Alchemist

Enter the author name

Palano

Enter price

750

Enter the number of pages

3000

Alchemist palano 750 3000

Neeling
2/12/2021

Microsoft Windows [Version 10.0.19044.2251]
(c) Microsoft Corporation. All rights reserved.

```
C:\Users\admin>cd C:\Users\admin\Desktop\1BM21CS058-Dikxya>javac Bookvck.java
C:\Users\admin\Desktop\1BM21CS058-Dikxya>java Bookvck
Enter the no of book objects
1
Enter the book name
Alchemist
Enter author name
palano
Enter price
Enter price
750
Enter the number of pages
3000
Alchemistpalano7503000
C:\Users\admin\Desktop\1BM21CS058-Dikxya>
```

Program: 4

Develop a java program to create an abstract class named shape that contains two integers and an empty method named printArea(). Provide three class named rectangle, Triangle and circle such that each one of the classes extends the class shape. Each one of the classes extends the class shape. Each one of the classes contain only the method printArea() that prints the area of given shape.

abstract class shape {

 double a, b;

 Shape (int n, int y)

 {

 a = n;

 b = y;

 }

 abstract void printArea();

}

class rectangle extends shape {

 rectangle (int n, int y)

 {

 super (n, y);

 }

 void printArea()

 {

 System.out.println ("Area of rectangle is " + (a * b));

 }

class triangle extends shape {

 triangle (int n, int y)

 {

 super (n, y);

3
void printArea()
{

System.out.println("Area of triangle is "+(0.5*a*b));

3
3

class circle extends shape {

circle (int x, int y)
{

super (x, y);
3

void printArea()
{

System.out.println("Area of circle is "+(3.14*a*a));

3
3

class shape area {

public static void main (String args [])
{

rectangle r1 = new rectangle (10, 20);

triangle t1 = new triangle (5, 10);

circle c1 = new circle (3, 0);

shape r;

r = r1;

r.printArea();

r = t1;

r.printArea();

r = c1;

r.printArea();

3

3

output

Enter dimension of rectangle

10 20

Enter dimension of triangle

2 4

Enter dimension of circle

4

Area of rectangle = 200.0

Area of triangle = 4.00

Area of circle = 50.24

Command Prompt

```
Microsoft Windows [Version 10.0.19044.2251]
(c) Microsoft Corporation. All rights reserved.

C:\Users\admin>cd C:\Users\admin\Desktop\1BM21CS058-Dikxya

C:\Users\admin\Desktop\1BM21CS058-Dikxya>javac Main.java

C:\Users\admin\Desktop\1BM21CS058-Dikxya>java Main
Enter dimensions of rectangle
10
20
Enter dimension of triangle=
2
4
Enter dimesions of circle(radius):
4
Area of Rectangle=200.0
Area of triangle=4.0
Area of circle=50.24

C:\Users\admin\Desktop\1BM21CS058-Dikxya>
```

Programs

Develop a Java program to create a class Bank that maintains two kinds of account for its customers, one called savings account and the other current account. The savings account provides compound interest and withdrawal facilities but no cheque book facility. The current account provides cheque book facility but no interest. Current account holders should also maintain a minimum balance and if the balance falls below this level, a service charge is imposed.

Create a class Account that stores customer name, account number and type of account. From this derive the classes cur-acct and sav-acct to make them more specific to their requirements. Include the necessary method in order to achieve the following tasks.

- a. Accept deposit from customer and update the balance.
- b. Display the balance.
- c. Compute and deposit interest.
- d. Permit withdrawal and update the balance. Check for the minimum balance, impose penalty if necessary and update the balance.

→

```
import java.util.Scanner;
import java.lang.math;
class account {
    String name = new String();
    int accno;
    double balance;
    Scanner st = new Scanner (System.in);
    void set ()
```

{

```
System.out.println ("Enter customer name:");
name = s.nextLine();
System.out.println ("Enter " + name + "'s accountno.");
accno = s.nextInt();
System.out.println ("Enter balance amount?");
balance bal = s.nextDouble();
}
void display()
{
System.out.println ("Customer name" + name);
System.out.println ("Your accountno : " + accno);
System.out.println ("Your account balance : " + bal);
}
```

class Saracct extends account

{

```
Scanner s = new Scanner (System.in);
Saracct()
```

{

```
System.out.println ("Cheque facility not available");
}
```

void deposit()

{

int ch;

double amt;

```
System.out.println ("Press 1 to deposit");
ch = s.nextInt();
```

```
if (ch == 1)
```

{

```
System.out.println ("Enter amount to be deposited");
amt = s.nextDouble();
```

```
bal = bal + amt;  
}  
else  
System.out.println("Invalid Input");  
}  
  
void in()  
System.out.print("Enter rate of interest");  
double r = s.nextDouble();  
System.out.print("Enter number of times interest  
applied per time period");  
int n = s.nextInt();  
System.out.print("Enter number of time periods");  
int t = s.nextInt();  
double n = bal * (1 + (r/n));  
double ci = Math.pow(n, n*t);  
System.out.print("Interest amount = "+ci+"  
Balance amount without interest is "+bal);  
bal = bal + ci;  
System.out.print("Available balance after upda-  
ting is "+bal);  
}  
  
void wdl()  
{  
System.out.print("Press 1 to withdraw amount");  
int ch = s.nextInt();  
if (ch == 1)  
{  
System.out.print("Enter the amount to be  
withdrawn");  
double wdraw = s.nextDouble();  
bal = bal - wdraw;  
System.out.print("Available balance: "+bal);  
}
```

3

else

System.out.println ("Invalid Input");

3

class curacct extend account

{

Scanners = new Scanner (System.in);

curacct()

{

System.out.println ("cheque facility available");

3

void deposit()

{

int ch;

double amt;

System.out.println ("Press 1 to deposit");

ch = s.nextInt();

if (ch == 1)

{

System.out.println ("Enter amount to be deposited");

amt = s.nextDouble();

bal = bal + amt;

3

else

System.out.println ("Invalid Input");

void cash()

{

System.out.println ("press 1 to withdraw the amount");

int ch = s.nextInt();

if (ch == 1)

{

```
System.out.println ("Enter amount to be withdrawn");  
double withdraw = s.nextDouble();  
bal = bal - withdraw;
```

```
System.out.println ("Unavailable balance" + bal)
```

4

else

```
System.out.println ("Invalid Input");
```

```
if (bal < 1000)
```

5

```
System.out.println ("You are running out of minimum balance in Amount of rs 50 has been deducted as service charge for having low balance");  
bal = bal - 50;
```

```
System.out.println ("Your available balance" + bal);
```

4

3

2

```
Public class lab 5
```

6

```
Public static void main (String args [] )
```

7

```
Scanner s = new Scanner (System.in)
```

int ch;

```
System.out.println ("\n\n press 1 . if your account is saving account \n 2 . if your account is current account");
```

```
ch = s.nextInt();
```

```
switch (ch)
```

8

case 1:

```
Saracct s1 = new Saracct ();
```

```
s1.set();
```

```
s1.display();  
s1.deposit();  
s1.in();  
s1.wd();  
break;
```

case2:

```
current c1=newcurrent();
```

```
c1.set();  
c1.display();  
c1.deposit();  
c1.cod();  
break;  
default:system.exit(0);
```

3

2

4

Output.

Press

1. if your account is savings account
2. if your account is current account.

cheque facility not available

Enter customer name

Dikshya

Enter Diky Dikshya's account number

10101010

Enter balance amount

10000

Press 1 to deposit

1

Enter amount to be deposited

2000

Enter rate of interest

10

Enter number of times interest applied per time period
1

Enter number of time periods
1

Interest amount = 132000

Balance amount without interest is 12000

Available balance after updating is 144000

Press 1 to withdraw amount.

1

Enter the amount to be withdrawn

1000

Available balance : 143000

Press

1. if your account is saving account.
2. if your account is current account.

2

cheque facility available

Enter customer name

Dikshya

Enter Dikshya's account number

10101010

Enter balance amount

10000

Customer Name : Dikshya

Your account number : 10101010

Your account balance : 10000

Press 1 to deposit

1

Enter amount to be deposited.

1000

Press 1 to withdraw amount

1

Enter amount to be withdrawn

500

Available balance: 10500.

Press

1. If your account is saving account
2. if your account is current account.

Cheque facility available

Enter customer name

Dikshya

Enter Dikshya's account number

10101010

Enter balance amount

200

Customer Name: Dikshya

Your account number: 10101010

Your account balance: 200

Press 1 to deposit

1

Enter amount to be deposited

20

Press 1 to withdraw amount

1

Enter amount to be withdrawn

20

Available balance 200

You are running out of minimum balance.

Amount of rs. 50 has been credited as service charge
for having low balance.

Your available balance is 150.

50
9/12/2021

```
Microsoft Windows [Version 10.0.19044.2251]
(c) Microsoft Corporation. All rights reserved.

C:\Users\admin>cd C:\Users\admin\Desktop\1BM21CS058-Dikxya

C:\Users\admin\Desktop\1BM21CS058-Dikxya>javac Lab5.java

C:\Users\admin\Desktop\1BM21CS058-Dikxya>java Lab5

Press
1. if your account is savings account
2. if your account is current account
1
Cheque Facility not available
Enter customer name
Dikshya
Enter Dikshya's account number
10101010
Enter balance amount
10000
Customer Name:Dikshya
Your account number:10101010
Your Account Balance:10000.0
Press 1 to deposit
1
Enter amount to be deposited
2000
Enter rate of interest
10
Enter number of times interest applied per time period
1
Enter number of time periods
1
Interest amount=132000.0
Balance amount without interest is12000.0
Available balance after updating is144000.0
Press 1 to withdraw ammount
1
Enter the amount to be withdrawn
1000
Available Balance:143000.0

C:\Users\admin\Desktop\1BM21CS058-Dikxya>java Lab5

Press
1. if your account is savings account
2. if your account is current account
2
Cheque Facility available
Enter customer name
Dikshya
Enter Dikshya's account number
10101010
Enter balance amount
10000
Customer Name:Dikshya
Your account number:10101010
Your Account Balance:10000.0
Press 1 to deposit
1
Enter amount to be deposited
```

```
px Command Prompt
Press 1 to deposit
1
Enter amount to be deposited
1000
Press 1 to withdraw ammount
1
Enter the amount to be withdrawn
500
Available Balance:10500.0

C:\Users\admin\Desktop\18M21CS058-Dikxya>java Lab5

Press
1. if your account is savings account
2. if your account is current account
1
Cheque Facility available
Enter customer name
dikshya
Enter dikshya's account number
101010
Enter balance amount
200
Customer Name:dikshya
Your account number:101010
Your Account Balance:200.0
Press 1 to deposit
1
Enter amount to be deposited
0
Press 1 to withdraw ammount
1
Enter the amount to be withdrawn
0
Available Balance:200.0
You are running out of minimum balance
Amount of rs 50 has been credited as service charge for having low balance
Your Available Balance:150.0

C:\Users\admin\Desktop\18M21CS058-Dikxya>
```

Program-6

WAP that demonstrates handling of exceptions in inheritance tree. Create a base class called "father" and derived class called "son" which extends the base class. In father class, implement a constructor which takes the age and throws the exception wrongAge() when input age < 0. In son class implement a constructor that takes both father and son's age and throws an exception if son's age is \geq father's age.

→

```

import java.util.Scanner;
class fatherAgeException extends Exception {
    public String toString() {
        return ("father's age is less than 0");
    }
}

class sonAgeException extends Exception {
    int a;
    sonAgeException (int age) {
        a = age;
    }
    public String toString() {
        if (a < 0)
            return ("Son's age is less than 0");
        else
            return ("Son's age is more than father's age.");
    }
}

class father {
    int age;
}

```

```
Scanner in = new Scanner (System.in);
```

```
Father f;
```

```
System.out.println ("Enter the father's age");
```

```
age = in.nextInt();
```

```
}
```

```
void ex1 () throws FatherAgeException {
```

```
{
```

```
if (age < 0)
```

```
throw new FatherAgeException (age);
```

```
}
```

```
}
```

```
class Son extends Father {
```

```
int age;
```

```
Son () {
```

```
System.out.println ("Enter the age of son : ");
```

```
age = in.nextInt();
```

```
}
```

```
void ex2 () throws SonAgeException {
```

```
if (age < 0 || age > super.age) {
```

```
throw new SonAgeException (age);
```

```
}
```

```
}
```

```
}
```

```
class Except {
```

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

```
Son s = new Son ();
```

```
try {
```

```
s.ex1 ();
```

```
}
```

```
Catch (FatherAgeException e) {
```

```
System.out.println (e);
```

```
}
```

Try &

S. ex2();

3

Catch (sonAge (exception)s)

System.out.println();

3

3

3

Output.

1. Enter the father's age 22
Enter the age of son 10
son's age is less than father's age.
2. Enter the father's age 22
Enter the age of son 28
son's age is more than father's age.
3. Enter the father's age -40
Enter the age of son 20
father's age is less than 0
son's age is more than father's age.
4. Enter the father's age 22
Enter the age of son -8
son's age is less than 0

Not Possible

Command Prompt

```
C:\Users\admin>cd C:\Users\admin\Desktop\1BM21CS058-Dikxya  
C:\Users\admin\Desktop\1BM21CS058-Dikxya>javac Except.java  
C:\Users\admin\Desktop\1BM21CS058-Dikxya>java Except  
Enter the father's age22  
Enter the age of son:  
10  
  
C:\Users\admin\Desktop\1BM21CS058-Dikxya>java Except  
Enter the father's age22  
Enter the age of son:  
28  
Son's age is more than Father's age  
  
C:\Users\admin\Desktop\1BM21CS058-Dikxya>java Except  
Enter the father's age-40  
Enter the age of son:  
20  
Father's age is less than 0  
Son's age is more than Father's age  
  
C:\Users\admin\Desktop\1BM21CS058-Dikxya>java Except  
Enter the father's age22  
Enter the age of son:  
-8  
Son's age is less than 0  
  
C:\Users\admin\Desktop\1BM21CS058-Dikxya>
```

Program: :-

WAP which creates two threads, one thread displaying "BMS college of Engineering" once every ten seconds and another displaying "CSE" once every two seconds.

```
→ import java.util.Scanner;  
class Bms extends Thread {  
    synchronized public void run() {  
        try {  
            int i = 0;  
            while (i < 5) {  
                sleep(10000);  
                System.out.println("BMS college of Engineering");  
                i++;  
            }  
        } catch (Exception e) {  
            }  
    }  
  
    class Cse extends Thread {  
        synchronized public void run() {  
            try {  
                int i = 0;  
                while (i < 5) {  
                    sleep(10000);  
                    System.out.println("Computer Science Engineering");  
                    i++;  
                }  
            } catch (Exception e) {  
                }  
        }  
    }  
}
```

class Main1 {

public static void main (String args []) {

Bms t1 = new Bms ();

Cse t2 = new Cse ();

t1.start ();

t2.start ();

3

3

Output.

BMS college. of engineering

BMS college of engg inceoring

BMC college. of engineering

BMs college. of engineering

computer science engineering

BMS college of engineering

computer science engineering

computer science engineering

computer science engineering

computer science engineering.

NP

6/1/2023

C:\Users\admin\Desktop\1BM21CS058-Dikxya>cd C:\Users\admin\Desktop\1BM21CS058-Dikxya

C:\Users\admin\Desktop\1BM21CS058-Dikxya>javac Main1.java

C:\Users\admin\Desktop\1BM21CS058-Dikxya>java Main1

BMS college of engineering

BMS college of engineering

BMS college of engineering

BMS college of engineering

Computer science engineering

BMS college of engineering

Computer science engineering

Computer science engineering

Computer science engineering

Computer science engineering

C:\Users\admin\Desktop\1BM21CS058-Dikxya>

Program 8: (Package concept)

Create a package CIE with two classes students & Internals and another package set with class external

→ generates Package CIE;

```
import java.util.*;  
public class student {  
    Scanner sc = new Scanner (System.in);  
    public String USN, name;  
    public int sem;  
    public void accept () {  
        System.out.println ("Enter USN, Name and sem:");  
        USN = sc.nextLine();  
        name = sc.nextLine();  
        sem = sc.nextInt();  
    }  
    public void display () {  
        System.out.println ("\n Student Details");  
        System.out.println ("Name: " + name);  
        System.out.println ("USN: " + USN);  
        System.out.println ("Semester: " + sem);  
    }  
}  
  
package CIE;  
import java.util.*;  
public class Internals extends CIE.Student {  
    Scanner sc = new Scanner (System.in);  
    public int ciem[] = new int [5];  
    public void accept () {  
        int i;  
        for (i=0; i<5; i++)  
            System.out.print ("Enter CIE marks of subject ");  
        ciem[i] = sc.nextInt();  
    }  
}
```

```
package SEE;
import CIE.*;
import java.util.*;
public class extends CIE.Student {
    Scanner sc = new Scanner(System.in);
    public int sem[] = new int[5];
    public void accept() {
        for (int i = 0; i < 5; i++) {
            System.out.println("Enter SEE marks of subject " + (i + 1));
            sem[i] = sc.nextInt();
        }
    }
}
```

```
Import CIE.*;
Import SEE.*;
import java.util.*;
class Total {
    public static void main(String args[]) {
        int i, j, n;
        Scanner sc = new Scanner(System.in);
        int total[] = new int[5];
        System.out.println("Enter the number of students:");
        n = sc.nextInt();
        CIE.Student s[] = new CIE.internals[n];
        SEE.externals se[] = new SEE.externals[n];
        for (i = 0; i < n; i++)
```

```
system.out.println("Enter student " + (i+1) + " details");
```

```
s[i] = new CIE.student();
```

```
s[i].accept();
```

```
c[i][i] = new CIE.internals();
```

```
c[i][i].accept();
```

```
se[i][i] = new SEC.externals();
```

```
se[i][i].accept();
```

3

```
for (p=0; i < n; i++)
```

4

```
System.out.println("Details of student " + (i+1));
```

```
s[i].display();
```

```
for (j=0; j < c; j++)
```

```
total[j] = c[i][i] = cem[j] + se[i][i].sem[j];
```

```
System.out.println("Total marks in subject " + (j+1) + ": total[j]);
```

5

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

6

```
7
```

8

Output.

```
Enter the number of students: 2
```

9 1

```
Enter student 1 details
```

```
Enter usn, name, sem:
```

001

Dikshya

2

Enter cie marks of subject 1 → 35

" " " " " 2 → 36

" " " " " 3 → 37

" " " " " 4 → 30

" " " " " 5 → 38

Enter see marks of subject 1 → 80

" " " " " 2 → 86

" " " " " 3 → 88

" " " " " 4 → 89

" " " " " 5 → 90

Details of student

Student details

Name: Dikshya

USN: 001

Sem: 2

Total marks in subject 1 : 115

" " " " " 2 : 122

" " " " " 3 : 125

" " " " " 4 : 119

" " " " " 5 : 128

72
12/1/2023