VISVESVARAYA TECHNOLOGICAL UNIVERSITY

"JnanaSangama", Belgaum -590014, Karnataka.

LAB REPORT
on

Object Oriented Java Programming

(23CS3PCOOJ)

Submitted by

Suryansh Singh (1BF24CS309)

in partial fulfillment for the award of the degree of
BACHELOR OF ENGINEERING
in

B.M.S. COLLEGE OF ENGINEERING
(Autonomous Institution under VTU)
BENGALURU-560019
Aug-2025 to Jan-2026

B.M.S. College of Engineering,
Bull Temple Road, Bangalore 560019
(Affiliated To Visvesvaraya Technological University, Belgaum)
Department of Computer Science and Engineering

CERTIFICATE

This is to certify that the Lab work entitled "Object Oriented Java Programming (23CS3PCOOJ)" carried out by **Suryansh Singh (1BF24CS309),** who is bonafide student of **B.M.S. College of Engineering.** It is in partial fulfilment for the award of **Bachelor of Engineering in Computer Science and Engineering** of the Visvesvaraya Technological University, Belgaum. The Lab report has been approved as it satisfies the academic requirements in respect of an Object-Oriented Java Programming (23CS3PCOOJ) work prescribed for the said degree.

Dr. Seema Patil Associate Professor Department of CSE, BMSCE	Dr. Kavitha Sooda Professor & HOD Department of CSE, BMSCE

Index

Github Link:suryansh-singh-3008/OOJ: Record of lab programs done java lab

Program 1

Implement Quadratic Equations

```java
import java.util.*;
public class quadratic
{
    public static void main(String[] args){
        Scanner sc = new Scanner(System.in);
        int a,b,c;
        float r1,r2=0;
        System.out.println("Suryansh Singh 1BF24CS309");
        System.out.println("Enter value of a: ");
        a=sc.nextInt();
        System.out.println("Enter value of b: ");
        b=sc.nextInt();
        System.out.println("Enter value of c: ");
        c=sc.nextInt();
        if(a==0)
        System.out.println("Invalid input");
        else{
            float d=b*b-(4*a*c);
            if(d==0){
                r1=(-b)/(2*a);
                System.out.println("root is real and equal: "+r1);

            }
            else if(d>0){
                r1=((-b)+((float)Math.sqrt(d)))/(2*a);
                r2=((-b)-((float)Math.sqrt(d)))/(2*a);
                System.out.println("roots are real and distinct");
                System.out.println("1st root  "+r1);
                System.out.println("2nd root " +r2);
            }
            else{
                r1=(-b)/(2*a);
                r2=(float)Math.sqrt(-d)/(2*a);
                System.out.println("roots are imaginary and distinct");
                System.out.println("The first root is :"+r1+"+"+r2+"i");
                System.out.println("The first root is :"+r1+"-"+r2+"i");

            }
        }
    }

}
```

Output:

```
PS C:\Users\Admin\Desktop\1BF24CS309> cd "c:\Users\Admin\Desktop\1BF24CS309\" ; if ($?) { javac quadratic.java } ; if ($?) { java quadratic }
Suryansh Singh 1BF24CS309
Enter value of a:
0
Enter value of b:
1
Enter value of c:
1
Invalid input
PS C:\Users\Admin\Desktop\1BF24CS309> cd "c:\Users\Admin\Desktop\1BF24CS309\" ; if ($?) { javac quadratic.java } ; if ($?) { java quadratic }
Suryansh Singh 1BF24CS309
Enter value of a:
1
Enter value of b:
-2
Enter value of c:
1
root is real and equal: 1.0
PS C:\Users\Admin\Desktop\1BF24CS309> cd "c:\Users\Admin\Desktop\1BF24CS309\" ; if ($?) { javac quadratic.java } ; if ($?) { java quadratic }
Suryansh Singh 1BF24CS309
Enter value of a:
1
Enter value of b:
-5
Enter value of c:
6
roots are real and distinct
1st root  3.0
2nd root 2.0
PS C:\Users\Admin\Desktop\1BF24CS309> cd "c:\Users\Admin\Desktop\1BF24CS309\" ; if ($?) { javac quadratic.java } ; if ($?) { java quadratic }
Suryansh Singh 1BF24CS309
Enter value of a:
1
Enter value of b:
1
Enter value of c:
8
roots are imaginary and distinct
The first root is :0.0+2.7838821i
The first root is :0.0-2.7838821i
```

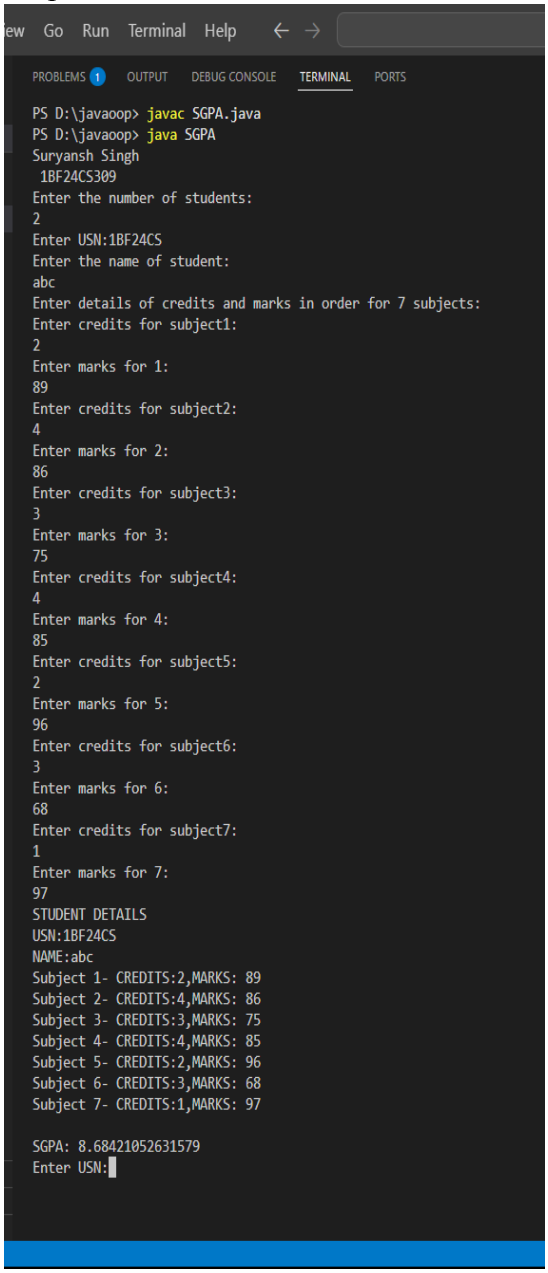
Program 2

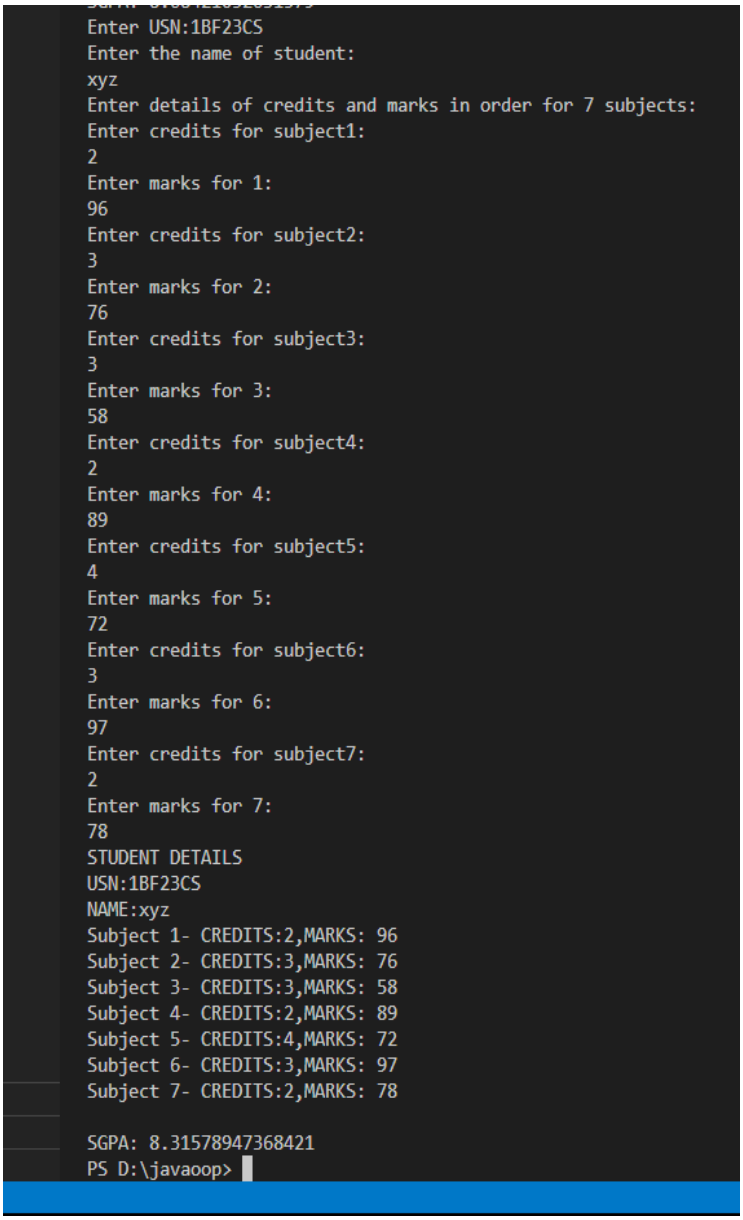
SGPA Calculations

```
import java.util.Scanner;
class Subject{
    int marks,credits,grade;
}
class Student
{
String usn,name;
double sgpa;
Subject sub[]= new Subject[7];
Scanner sc=new Scanner(System.in);
Student(){for(int i=0;i<7;i++)
sub[i]=new Subject();}
void AcceptDetails()
{

System.out.print("Enter USN:");
usn= sc.next();
System.out.println("Enter the name of student:");
name= sc.next();
System.out.println("Enter details of credits and marks in order for 7 subjects:");
for(int i=0;i<7;i++)
{
System.out.println("Enter credits for subject" + (i+1)+":");
sub[i].credits=sc.nextInt();
System.out.println("Enter marks for "+ (i+1)+ ":");
sub[i].marks=sc.nextInt();
}
}
void Display()
{
System.out.println("STUDENT DETAILS");
System.out.println("USN:"+ usn);
System.out.println("NAME:"+ name);
for (int i=0;i<7;i++)
{
System.out.println("Subject "+ (i+1)+ "- CREDITS:"+ sub[i].credits+ ",MARKS: "+ sub[i].marks);
}
}
double calc()
{
```

```
    double calc()
    {
    int totalCredits=0;
    double totalGradePoints=0;
    for(int i=0;i<7;i++)
    {
    totalCredits+= sub[i].credits;
    totalGradePoints+= gradepoints(sub[i].marks)*sub[i].credits;
    }
    return totalGradePoints/totalCredits;

    }
    int gradepoints(int marks)
    {
    if(marks>=100) return 10;
    else return marks/10+1;
    /*else if(marks>=70) return 8;
    else if(marks>=60) return 7;
    else if(marks>=50) return 6;
    else if(marks>=40) return 5;
    else return 0*/
    }
    }
    public class SGPA
    {
    public static void main(String[] a)
    {
    System.out.println("Suryansh Singh\n 1BF24CS309");
    Scanner sc= new Scanner(System.in);
    System.out.println("Enter the number of students: ");
    int numstudent= sc.nextInt();
    Student student[]=new Student[numstudent];
    for (int i=0;i< numstudent;i++)
    {
    student[i]=new Student();
    student[i].AcceptDetails();
    student[i].Display();
    System.out.println("\nSGPA: "+ student[i].calc());
    }
    }
    }
```

Output:


ew Go Run Terminal Help
PROBLEMS 1 OUTPUT DEBUG CONSOLE TERMINAL PORTS
PS D:\javaoop> javac SGPA.java
PS D:\javaoop> java SGPA
Suryansh Singh
1BF24CS309
Enter the number of students:
2
Enter USN:1BF24CS
Enter the name of student:
abc
Enter details of credits and marks in order for 7 subjects:
Enter credits for subject1:
2
Enter marks for 1:
89
Enter credits for subject2:
4
Enter marks for 2:
86
Enter credits for subject3:
3
Enter marks for 3:
75
Enter credits for subject4:
4
Enter marks for 4:
85
Enter credits for subject5:
2
Enter marks for 5:
96
Enter credits for subject6:
3
Enter marks for 6:
68
Enter credits for subject7:
1
Enter marks for 7:
97
STUDENT DETAILS
USN:1BF24CS
NAME:abc
Subject 1- CREDITS:2,MARKS: 89
Subject 2- CREDITS:4,MARKS: 86
Subject 3- CREDITS:3,MARKS: 75
Subject 4- CREDITS:4,MARKS: 85
Subject 5- CREDITS:2,MARKS: 96
Subject 6- CREDITS:3,MARKS: 68
Subject 7- CREDITS:1,MARKS: 97
SGPA: 8.68421052631579
Enter USN:


Enter USN:1BF23CS
Enter the name of student:
xyz
Enter details of credits and marks in order for 7 subjects:
Enter credits for subject1:
2
Enter marks for 1:
96
Enter credits for subject2:
3
Enter marks for 2:
76
Enter credits for subject3:
3
Enter marks for 3:
58
Enter credits for subject4:
2
Enter marks for 4:
89
Enter credits for subject5:
4
Enter marks for 5:
72
Enter credits for subject6:
3
Enter marks for 6:
97
Enter credits for subject7:
2
Enter marks for 7:
78
STUDENT DETAILS
USN:1BF23CS
NAME:xyz
Subject 1- CREDITS:2,MARKS: 96
Subject 2- CREDITS:3,MARKS: 76
Subject 3- CREDITS:3,MARKS: 58
Subject 4- CREDITS:2,MARKS: 89
Subject 5- CREDITS:4,MARKS: 72
Subject 6- CREDITS:3,MARKS: 97
Subject 7- CREDITS:2,MARKS: 78
SGPA: 8.31578947368421
PS D:\javaoop>

Program 3:

Book searching

```
import java.util.*;
class Book{
    String name,author;
    int pages,price;
    Book(String name,String author,int price,int pages){
        this.name=name;
        this.author=author;
        this.price=price;
        this.pages=pages;
    }
    public String toString(){
        String name,author,price,pages;
        name="Book name: "+this.name+"\n";
        author="Author name: "+this.author+"\n";
        price="Price: "+this.price+"\n";
        pages ="Number of pages: "+this.pages+"\n";
        return name +author+price+pages;

    }
}
class to_string{
    public static void main(String[] args) {
        Scanner s= new Scanner(System.in);
        int n;int pages;int price; String name;String author;
        System.out.println("Enter number of books");
        n=s.nextInt();
        s.nextLine();
        Book b[]=new Book[n];
        for(int i=0;i<n;i++){
            System.out.println("---Enter details---\n Enter book name: ");
            name=s.nextLine();
            System.out.println("Enter author's name: ");
            author=s.nextLine();
            System.out.println("Enter Price: ");
            price=s.nextInt();
            System.out.println("Enter number of pages: ");
            pages=s.nextInt();
            s.nextLine();
            b[i]=new Book(name,author,price,pages);
        }
        for(int i=0;i<n;i++){
            System.out.println("---BOOK DETAILS---\n");
            System.out.println(b[i]);
        }
    }
}
```

Output:

```
Enter number of books
2
---Enter details---
 Enter book name:
Atomic habits
Enter author's name:
James Clear
Enter Price:
500
Enter number of pages:
852
---Enter details---
 Enter book name:
Harry Potter
Enter author's name:
Jk Rowlings
Enter Price:
869
Enter number of pages:
252
---BOOK DETAILS---

Book name: Atomic habits
Author name: James Clear
Price: 500
Number of pages: 852

---BOOK DETAILS---

Book name: Harry Potter
Author name: Jk Rowlings
Price: 869
Number of pages: 252
```

Program 4:

Implementing Abstract Class in Figures

```
import java.util.Scanner;
abstract class Shape {
    int a, b;
    abstract double getArea();
}
class Rectangle extends Shape {
    Rectangle(int length, int breadth) {
        a = length;
        b = breadth;
    }
    double getArea() {
        return a * b;
    }
}

class Triangle extends Shape {
    Triangle(int base, int height) {
        a = base;
        b = height;
    }
    double getArea() {
        return 0.5 * a * b;
    }
}
class Circle extends Shape {
    Circle(int radius) {
        a = radius;
    }
    double getArea() {
        return Math.PI * a * a;
    }
}
```

```java
}
public class figure {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.print("Enter dimensions of Rectangle(length & breadth):");
        int length = sc.nextInt();
        int breadth = sc.nextInt();
        Rectangle rect = new Rectangle(length, breadth);

        System.out.print("Enter dimensions of Triangle(base and height):");
        int base = sc.nextInt();
        int height = sc.nextInt();
        Triangle tri = new Triangle(base, height);

        System.out.print("Enter radius of Circle:");
        int radius = sc.nextInt();
        Circle cir = new Circle(radius);


        System.out.println("Area of Rectangle = " + rect.getArea());
        System.out.println("Area of Triangle = " + tri.getArea());
        System.out.println("Area of Circle = " + cir.getArea());

    }
}
```

Output:

```
PS C:\Users\BMSCE\Desktop\1BF24CS309> javac figure.java
PS C:\Users\BMSCE\Desktop\1BF24CS309> java figure
Enter dimensions of Rectangle(length & breadth):5 9
Enter dimensions of Triangle(base and height):4 12
Enter radius of Circle:25
Area of Rectangle = 45.0
Area of Triangle = 24.0
Area of Circle = 1963.4954084936207
PS C:\Users\BMSCE\Desktop\1BF24CS309>
```

Program 5:
Bank Program

```
1   import java.util.Scanner;
2
3   class Account {
4       String customerName;
5       int accountNumber;
6       String accountType;
7       double balance;
8
9       void getAccountDetails() {
10          Scanner s = new Scanner(System.in);
11          System.out.print("Enter customer name: ");
12          customerName = s.next();
13          System.out.print("Enter account Number: ");
14          accountNumber = s.nextInt();
15          System.out.print("Enter type of account (saving/current): ");
16          accountType = s.next();
17          balance = 0;
18      }
19
20      void display() {
21          System.out.println("Customer name: " + customerName);
22          System.out.println("Account number: " + accountNumber);
23          System.out.println("Type of Account: " + accountType);
24          System.out.println("Balance = " + balance);
25      }
26  }
27
28
29  class Sav_acct extends Account {
30      void deposit() {
31          Scanner s = new Scanner(System.in);
32          System.out.print("Enter the deposit amount: ");
33          double amount = s.nextDouble();
34          balance += amount;
35      }
36
37      void withdraw() {
38          Scanner s = new Scanner(System.in);
39          System.out.print("Enter the withdrawal amount: ");
40          double amount = s.nextDouble();
41          if (amount > balance) {
42              System.out.println("Insufficient balance!");
```

```
43              } else {
44                  balance -= amount;
45              }
46          }
47
48          void computeInterest() {
49              Scanner s = new Scanner(System.in);
50              System.out.print("Enter the rate of interest: ");
51              double rate = s.nextDouble();
52              System.out.print("Enter the time period (years): ");
53              int time = s.nextInt();
54
55              double interest = balance * Math.pow((1 + rate / 100), time) - balance;
56              balance += interest;
57              System.out.println("Interest added = " + interest);
58          }
59      }
60
61      class Cur_acct extends Account {
62          final double minBalance = 500;
63          final double serviceCharge = 100;
64
65          void deposit() {
66              Scanner s = new Scanner(System.in);
67              System.out.print("Enter the deposit amount: ");
68              double amount = s.nextDouble();
69              balance += amount;
70          }
71
72          void withdraw() {
73              Scanner s = new Scanner(System.in);
74              System.out.print("Enter the withdrawal amount: ");
75              double amount = s.nextDouble();
76              if (amount > balance) {
77                  System.out.println("Insufficient balance!");
78              } else {
79                  balance -= amount;
80                  checkMinBalance();
81              }
82          }
```

```
83
84      void checkMinBalance() {
85          if (balance < minBalance) {
86              balance -= serviceCharge;
87              System.out.println("Balance below minimum! Service charge of Rs." + serviceCharge + " imposed.");
88          }
89      }
90  }
91
92
93  public class MainBank {
94      public static void main(String[] args) {
95          Scanner s = new Scanner(System.in);
96          Sav_acct sav = new Sav_acct();
97          Cur_acct cur = new Cur_acct();
98
99          System.out.print("Enter customer name for savings account: ");
100         sav.customerName = s.next();
101         System.out.print("Enter account Number: ");
102         sav.accountNumber = s.nextInt();
103         sav.accountType = "saving";
104
105         System.out.print("Enter customer name for current account: ");
106         cur.customerName = s.next();
107         System.out.print("Enter account Number: ");
108         cur.accountNumber = s.nextInt();
109         cur.accountType = "current";
110
111         int choice;
112         do {
113             System.out.println("\n-----MENU-----");
114             System.out.println("1. Deposit");
115             System.out.println("2. Withdraw");
116             System.out.println("3. Compute interest for SavingsAccount");
117             System.out.println("4. Display account details");
118             System.out.println("5. Exit");
119             System.out.print("Enter your choice: ");
120             choice = s.nextInt();
121
```

```
122                 switch (choice) {
123                     case 1:
124                         System.out.print("Enter the type of account: ");
125                         String type = s.next();
126                         if (type.equalsIgnoreCase("saving"))
127                             sav.deposit();
128                         else
129                             cur.deposit();
130                         break;
131 
132                     case 2:
133                         System.out.print("Enter the type of account: ");
134                         type = s.next();
135                         if (type.equalsIgnoreCase("saving"))
136                             sav.withdraw();
137                         else
138                             cur.withdraw();
139                         break;
140 
141                     case 3:
142                         sav.computeInterest();
143                         break;
144 
145                     case 4:
146                         System.out.print("Enter the type of account: ");
147                         type = s.next();
148                         if (type.equalsIgnoreCase("saving"))
149                             sav.display();
150                         else
151                             cur.display();
152                         break;
153 
154                     case 5:
155                         System.out.println("Exiting...");
156                         break;
157 
158                     default:
159                         System.out.println("Invalid choice!");
160                 }
161             } while (choice != 5);
162         }
163     }
```

Output:

```
PS D:\1BF24CS309> javac MainBank.java
PS D:\1BF24CS309> java MainBank.java
Enter customer name for savings account: abc
Enter account Number: 102
Enter customer name for current account: xyz
Enter account Number: 120

-----MENU-----
1. Deposit
2. Withdraw
3. Compute interest for SavingsAccount
4. Display account details
5. Exit
Enter your choice: 1
Enter the type of account: saving
Enter the deposit amount: 1500

-----MENU-----
1. Deposit
2. Withdraw
3. Compute interest for SavingsAccount
4. Display account details
5. Exit
Enter your choice: 1
Enter the type of account: current
Enter the deposit amount: 2000

-----MENU-----
1. Deposit
2. Withdraw
3. Compute interest for SavingsAccount
4. Display account details
5. Exit
Enter your choice: 2
Enter the type of account: saving
Enter the withdrawal amount: 200

-----MENU-----
1. Deposit
2. Withdraw
3. Compute interest for SavingsAccount
4. Display account details
5. Exit
Enter your choice: 3
Enter the rate of interest: 5
Enter the time period (years): 2
Interest added = 133.25

-----MENU-----
1. Deposit
2. Withdraw
3. Compute interest for SavingsAccount
4. Display account details
5. Exit
Enter your choice: 4
Enter the type of account: saving
Customer name: abc
Account number: 102
Type of Account: saving
Balance = 1433.25

-----MENU-----
1. Deposit
2. Withdraw
3. Compute interest for SavingsAccount
4. Display account details
5. Exit
Enter your choice: 4
Enter the type of account: current
Customer name: xyz
Account number: 120
Type of Account: current
Balance = 2000.0
```

Program 6:
Implementing Package

```
    package Cie;
    import java.util.Scanner;
    public class Internals extends Student {
        protected int marks[] = new int[5];

    public void inputCIEmarks(){
        Scanner s=new Scanner(System.in);
        for(int i=0;i<5;i++){
            System.out.println("Enter the subject "+(i+1)+"  CIE marks: ");
            marks[i]=s.nextInt();
        }
    }
    }
```

```
    package Cie;
    import java.util.Scanner;
    public class Student {
        protected String usn = new String(); protected String name = new String(); protected int sem;
        public void input_details(){
            Scanner sc=new Scanner(System.in);
            System.out.println("Enter the name: ");
            name=sc.nextLine();
            System.out.println("Enter the usn: ");
            usn=sc.nextLine();
            System.out.println("Enter the sem: ");
            sem=sc.nextInt();
        }
        public void display(){
            System.out.println("Name of the student is: "+name);
            System.out.println("USN is: "+usn);
            System.out.println("SEM is: "+sem);
        }
    }
```

```java
package SEE;
import java.util.Scanner;
import Cie.Internals;
public class Externals extends Internals{
    protected int marks[];

protected int finalMarks[];
public Externals(){
    marks=new int[5];finalMarks=new int[5];
}
public void inputSEEmarks(){
    Scanner s=new Scanner(System.in);
    for(int i=0;i<5;i++){
        System.out.println("Enter the subject "+(i+1)+" SEE marks: ");
        marks[i]=s.nextInt();
    }
}
public void calculateFinalMarks(){

    for(int i=0;i<5;i++){
        finalMarks[i]=marks[i]/2+super.marks[i];
    }
}
public void display_marks(){
    super.display();
        System.out.println("The final marks in all 5 courses are: ");

    for(int i=0;i<5;i++){
        System.out.println("Course "+(i+1)+" is: "+finalMarks[i]);
    }
}
}
```

```java
import SEE.Externals;
import java.util.*;
class Main{
    public static void main(String[] args) {
        int n;
        Scanner sc= new Scanner(System.in);
        System.out.println("Enter number of students");
         n=sc.nextInt();

        for(int i=0;i<n;i++){
        Externals we=new Externals();
        we.input_details();we.inputCIEmarks();we.inputSEEmarks();we.calculateFinalMarks();
        we.display_marks();}

    }
}
```

Output:

```
PS D:\1BF24CS309> javac Main.java
PS D:\1BF24CS309> java Main.java
Enter number of students
2
Enter the name:
Suryansh
Enter the usn:
1BF24CS
Enter the sem:
3
Enter the subject 1  CIE marks:
48
Enter the subject 2  CIE marks:
42
Enter the subject 3  CIE marks:
44
Enter the subject 4  CIE marks:
46
Enter the subject 5  CIE marks:
49
Enter the subject 1 SEE marks:
89
Enter the subject 2 SEE marks:
98
Enter the subject 3 SEE marks:
96
Enter the subject 4 SEE marks:
78
Enter the subject 5 SEE marks:
82
Name of the student is: Suryansh
USN is: 1BF24CS
SEM is: 3
The final marks in all 5 courses are:
Course 1 is: 92
Course 2 is: 91
Course 3 is: 92
Course 4 is: 85
Course 5 is: 90
```

```
Enter the name:
Sudhir
Enter the usn:
1BF22CS
Enter the sem:
5
Enter the subject 1  CIE marks:
33
Enter the subject 2  CIE marks:
36
Enter the subject 3  CIE marks:
48
Enter the subject 4  CIE marks:
32
Enter the subject 5  CIE marks:
45
Enter the subject 1 SEE marks:
85
Enter the subject 2 SEE marks:
78
Enter the subject 3 SEE marks:
76
Enter the subject 4 SEE marks:
86
Enter the subject 5 SEE marks:
82
Name of the student is: Sudhir
USN is: 1BF22CS
SEM is: 5
The final marks in all 5 courses are:
Course 1 is: 75
Course 2 is: 75
Course 3 is: 86
Course 4 is: 75
Course 5 is: 86
PS D:\1BF24CS309>
```

Program 7:
Handling age Exception

```
1   import java.util.Scanner;
2
3   class WrongAge extends Exception {
4       public WrongAge(String msg) {
5           super(msg);
6       }
7   }
8
9   class InputScanner {
10      Scanner sc = new Scanner(System.in);
11  }
12
13  class Father extends InputScanner {
14      int father_age;
15
16      public Father() throws WrongAge {
17          System.out.println("Enter the father's age: ");
18          father_age = sc.nextInt();
19          if (father_age < 0) {
20              throw new WrongAge("Age cannot be negative");
21          }
22      }
23
24      public void display() {
25          System.out.println("The father's age is: " + father_age);
26      }
27  }
28
29  class Son extends Father {
30      int son_age;
31
32      public Son() throws WrongAge {
33          System.out.println("Enter the son's age: ");
34          son_age = sc.nextInt();
35          if (son_age < 0) {
36              throw new WrongAge("Age cannot be negative");
37          } else if (son_age >= father_age) {
38              throw new WrongAge("Son's age cannot be greater than father's age");
39          }
40      }
```

```java
public class Demo7{
    public static void main(String[] args) {
        try {
            Son s = new Son();
            s.display();
        } catch (WrongAge e) {
            System.out.println(e.getMessage());
        }
    }
}
```

Output:

```
PS D:\1BF24CS309> javac Demo7.java
PS D:\1BF24CS309> java Demo7.java
Enter the father's age:
52
Enter the son's age:
27
The father's age is: 52
The son's age is: 27
PS D:\1BF24CS309> java Demo7.java
Enter the father's age:
22
Enter the son's age:
23
Son's age cannot be greater than father's age
PS D:\1BF24CS309>
```

Program 8:

Using Threads

```
class College_Thread extends Thread{
    public void run(){
        int i=0;
        try{
            while(i<3){
                i++;
                System.out.println("BMS COLLEGE OF ENGINEERING");
                Thread.sleep(10000);
            }

        } catch (InterruptedException e) {
            System.out.println("COLLEGE THREAD INTERRUPTED");
        }
    }
}
class Cse_Thread extends Thread{
    public void run(){
        int c=0;
        try{
            while(c<15){
                c++;
                System.out.println("CSE");
                Thread.sleep(2000);
            }
        } catch (InterruptedException e) {
            System.out.println("CSE THREAD INTERRUPTED");
        }
    }
}
class threads{
    public static void main(String[] args) {
        College_Thread t1=new College_Thread();
        Cse_Thread t2=new Cse_Thread();
        t1.start();t2.start();
    }
}
```

Output:

```
PS D:\1BF24CS309> javac threads.java
PS D:\1BF24CS309> java threads.java
BMS COLLEGE OF ENGINEERING
CSE
CSE
CSE
CSE
CSE
BMS COLLEGE OF ENGINEERING
CSE
CSE
CSE
CSE
CSE
BMS COLLEGE OF ENGINEERING
CSE
CSE
CSE
CSE
CSE
PS D:\1BF24CS309>
```