

VISVESVARAYA TECHNOLOGICAL UNIVERSITY
“JnanaSangama”, Belgaum -590014, Karnataka.



LAB REPORT
on

OBJECT ORIENTED JAVA PROGRAMMING

Submitted by

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in partial fulfillment for the award of the degree of
BACHELOR OF ENGINEERING
in
COMPUTER SCIENCE AND ENGINEERING



B.M.S. COLLEGE OF ENGINEERING
(Autonomous Institution under VTU)
BENGALURU-560019
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**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 lab**” carried out by **Harsh Ghiya(1BM21CS073)**, who is bonafide student of **B. M. S. College of Engineering**. It is in partial fulfillment for the award of **Bachelor of Engineering in Computer Science and Engineering** of the Visvesvaraya Technological University, Belgaum during the year 2022-23. The Lab report has been approved as it satisfies the academic requirements in respect of Data structures Lab - (**21CS3PCOOJ**) work prescribed for the said degree.

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Course Outcome

CO1	Apply the knowledge of Java concepts to find the solution for a given problem.
CO2	Analyze the given Java application for correctness/functionalities.
CO3	Develop Java programs / applications for a given requirement.
CO4	Conduct practical experiments for demonstrating features of Java.

LAB PROGRAM 1: QUADRATIC EQUATIONS

CODE:

```
import java.util.Scanner;
import java.lang.Math;
public class Trial
{
    public static void main(String[] args)
    {
        Scanner s = new Scanner(System.in);
        System.out.println("Enter the coefficients: ");
        float a = s.nextFloat();
        float b = s.nextFloat();
        float c = s.nextFloat();
        double r1,r2;
        float d = (b*b)-(4.0f*a*c);
        if(d>0)
        {
            r1=(-b+Math.sqrt(d))/(2*a);
            r2=(-b-Math.sqrt(d))/(2*a);
            System.out.println("Roots are Real");
            System.out.println("Root 1: "+r1+" Root 2: "+r2);
        }
        else if(d==0)
        {
            r1=(-b)/(2*a);
            System.out.println("Roots are Equal");
            System.out.println("Root is: "+r1);
        }

        else
        {

```

```

        double e=(-b)/(2.0f*a);
        double f=(Math.sqrt(-d))/(2*a);
        System.out.println("Roots are imaginary");
        System.out.println("Root 1: "+e+"i"+"f);
        System.out.println("Root 2: "+e+"i-"+f);
    }
}
}

```

```

C:\Users\student\Desktop>java Quad.java
enter the coefficients a,b,c:
1 1 1
Imaginary roots
Root 1: -0.5i+0.8660254037844386
Root 2: -0.5i-0.8660254037844386

C:\Users\student\Desktop> 1 4 2
'1' is not recognized as an internal or external command,
operable program or batch file.

C:\Users\student\Desktop> java Quad.java
enter the coefficients a,b,c:
1 4 2
Roots are real and distinct
Root 1:-3.414213562373095 root 2:-0.5857864376269049

C:\Users\student\Desktop>java Quad.java
enter the coefficients a,b,c:
1 6 9
Roots are equal and real
Roots are:-3.0

C:\Users\student\Desktop>_

```

LAB PROGRAM 2: SGPA CALCULATION

CODE

```
import java.util.Scanner;

class Student
{
    String USN;

    String name;

    int[] credits = new int[20];

    int[] marks = new int[20];

    void input(int n)
    {
        Scanner s = new Scanner(System.in);

        System.out.print("Enter Student USN: ");

        USN = s.nextLine();

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

        name = s.nextLine();

        for(int i=0;i<n;i++)
        {
            System.out.print("Enter the Subject "+(i+1)+" marks and credits
respectively: ");

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

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

}

}

float calculate(int n)
{
    int sum_of_credits = 0;
    float result=0.0f;
    for(int i=0;i<n;i++)
    {
        sum_of_credits+=credits[i];
        if(calculate_grade_point(marks[i])== -1)
            return -1.0f;
        else
        {
            result = result +(float) (calculate_grade_point(marks[i])*credits[i]);
        }
    }
    return (result/sum_of_credits);
}

int calculate_grade_point(int marks)
```

```
{  
    if(marks>=90)  
        return 10;  
    else if ((marks>=80)&&(marks<90))  
        return 9;  
    else if ((marks>=70)&&(marks<80))  
        return 8;  
    else if ((marks>=60)&&(marks<70))  
        return 7;  
    else if ((marks>=50)&&(marks<60))  
        return 6;  
    else if ((marks>=40)&&(marks<50))  
        return 5;  
    return -1;  
}
```

```
void display(int n,float result)  
{  
    System.out.println("\n");  
    System.out.println("Student Details");  
    System.out.println();  
}
```



```

        System.out.println("Student USN: "+USN);

        System.out.println("Student Name: "+name);

        System.out.println("Student Marks and Credits");

        for(int i=0;i<n;i++)

        {

            System.out.println("Subject 1 -->\tMarks: "+marks[i]+" Credits:
"+credits[i]);

        }

        System.out.println("SGPA: "+result);

    }

}

public class Lab_02_SGPA

{

    public static void main(String[] args)

    {

        Scanner s = new Scanner(System.in);

        Student s1 = new Student();

        System.out.print("Enter the number of subjects: ");

        int n = s.nextInt();

        s1.input(n);

        float result = s1.calculate(n);

        if(result == -1.0f)

```

```

    {
        System.out.println();

        System.out.println("The Student has failed in a subject. SGPA cannot be
calculated!");

        System.exit(0);

    }

    s1.display(n,result);

}
}

```

```

Microsoft Windows [Version 10.0.19045.2251]
(c) Microsoft Corporation. All rights reserved.

C:\Users\bmscece>CD DESKTOP

C:\Users\bmscece\Desktop>javac SGPA.java

C:\Users\bmscece\Desktop>java SGPA
Enter the number of subjects: 5
Enter Student USN: 18M21CS180
Enter Student Name: ABCXYZ
Enter the Subject 1 marks and credits respectively: 99 4
Enter the Subject 2 marks and credits respectively: 91 3
Enter the Subject 3 marks and credits respectively: 92 2
Enter the Subject 4 marks and credits respectively: 81 1
Enter the Subject 5 marks and credits respectively: 78 1

Student Details

Student USN: 18M21CS180
Student Name: ABCXYZ
Student Marks and Credits
Subject 1 --> Marks: 99 Credits: 4
Subject 1 --> Marks: 91 Credits: 3
Subject 1 --> Marks: 92 Credits: 2
Subject 1 --> Marks: 81 Credits: 1
Subject 1 --> Marks: 78 Credits: 1
SGPA: 9.727273

```

LAB PROGRAM 3: IMPLEMENTING ARRAY OF OBJECTS

CODE

```
import java.util.*;

import java.io.*;

class Book

{

String title,author;

float price;

int num_pages;

Book()

{

title = "Default Value";

author = "Default Value";

price = 0.0f;

num_pages = 0;

}

void setTitle(String title)

{
```

```
this.title=title;
```

```
}
```

```
void setAuthor(String author)
```

```
{
```

```
this.author=author;
```

```
}
```

```
void setPrice(float price)
```

```
{
```

```
this.price=price;
```

```
}
```

```
void setPages(int num_pages)
```

```
{
```

```
this.num_pages = num_pages;
```

```
}
```

```
public String toString()
```

```
{
```

```
return title+"\t\t"+author+"\t\t"+price+"\t\t"+num_pages+"\n";
```

```
}
```

```
}
```

```
public class BookDetails
```

```
{
```

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

```
{
```

```
String t, a;
```

```
float p;
```

```
int np,n;
```

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

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

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

```
Book[] b = new Book[n];
```

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

```
{
```

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

```
System.out.print("Enter the book name: ");
```

```
t = s.next();

System.out.print("Enter the author name: ");

a = s.next();

System.out.print("Enter the book price: ");

p = s.nextFloat();

System.out.print("Enter the number of pages: ");

np = s.nextInt();


b[i] = new Book();

b[i].setTitle(t);

b[i].setAuthor(a);

b[i].setPrice(p);

b[i].setPages(np);

}

System.out.println("Title \t\t Author \t\t Price \t\t Pages\n");

for(int i=0; i<n;i++)

{

System.out.println(b[i]);

}

}

}
```

Microsoft Windows [Version 10.0.19045.2251]
(c) Microsoft Corporation. All rights reserved.

C:\Users\bmscecse>cd desktop

C:\Users\bmscecse\Desktop>javac BookDetails.java

C:\Users\bmscecse\Desktop>java BookDetails

Enter the number of Books: 3

Enter the book name: Eldest

Enter the author name: Christopher_Paolini

Enter the book price: 350

Enter the number of pages: 350

Enter the book name: Brisingr

Enter the author name: Christopher_Paolini

Enter the book price: 400

Enter the number of pages: 440

Enter the book name: Inheritance

Enter the author name: Christopher_Paolini

Enter the book price: 450

Enter the number of pages: 499

Title	Author	Price	Pages
-------	--------	-------	-------

Eldest	Christopher_Paolini	350.0	350
--------	---------------------	-------	-----

Brisingr	Christopher_Paolini	400.0	440
----------	---------------------	-------	-----

Inheritance	Christopher_Paolini	450.0	499
-------------	---------------------	-------	-----

LAB PROGRAM 4: CALCULATING AREA OF SHAPES (ABSTRACT CLASS)

CODE

```
import java.util.Scanner;

public class Shape1
{
    public static void main(String args[])
    {
        int choice;

        Scanner s = new Scanner(System.in);

        do
        {
            System.out.println("1. Calculate Area of Rectangle\n2. Calculate Area of\nTriangle\n3. Calculate Area of " +
                               "Circle\n4. Exit the Program\n\nEnter the choice: ");

            choice = s.nextInt();

            switch(choice)
            {
                case 1: Rectangle r = new Rectangle();
                       r.printArea();
                       break;

                case 2: Triangle t = new Triangle();
```



```
        t.printArea();  
        break;  
        case 3: Circle c = new Circle();  
        c.printArea();  
        break;  
        case 4: System.out.println("Exiting the program!");  
        System.exit(0);  
        break;  
        default: System.out.println("\nInvalid Choice!\n");  
    }  
    }while(true);  
    }  
}
```

```
abstract class Shape  
{  
    int a,b;  
    abstract void printArea();  
}
```

```
class Rectangle extends Shape  
{
```

```
void printArea()
{
    int area;

    Scanner s = new Scanner(System.in);

    System.out.println("Enter the length and breadth of rectangle: ");

    a = s.nextInt();
    b = s.nextInt();

    area = a*b;

    System.out.println("\nArea of Rectangle: "+area+"\n");
}
}
```

```
class Triangle extends Shape
```

```
{
    void printArea()
    {
        float area;

        Scanner s = new Scanner(System.in);

        System.out.println("Enter the base and height of triangle: ");

        a = s.nextInt();
        b = s.nextInt();

        area = 0.5f*a*b;
    }
}
```

```
        System.out.println("\nArea of triangle: "+area+"\n");
    }
}
```

class Circle extends Shape

```
{
    void printArea()
    {
        double area;

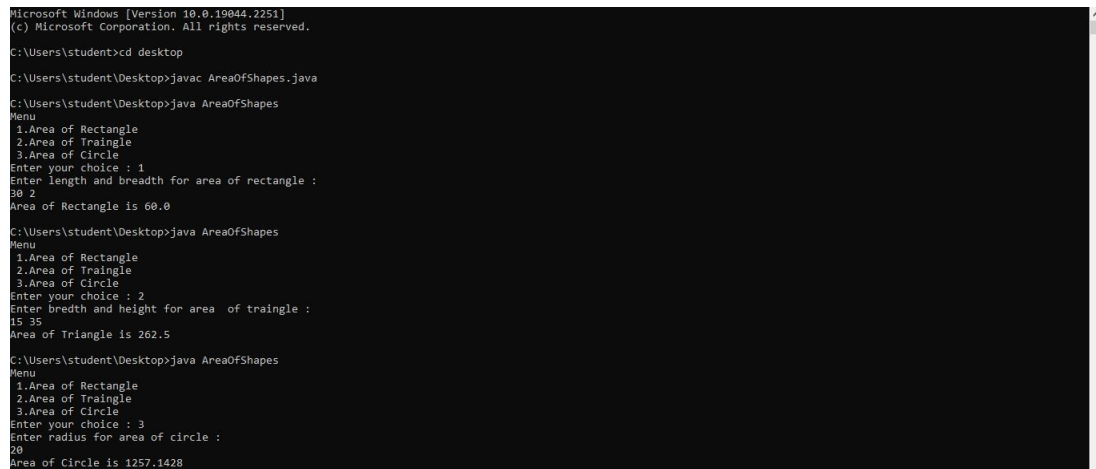
        Scanner s = new Scanner(System.in);

        System.out.println("Enter the radius of circle: ");

        a = s.nextInt();

        area = Math.PI*a;

        System.out.println("Area of Circle: "+area+"\n");
    }
}
```



The screenshot shows a Windows command prompt window with the following text:

```
Microsoft Windows [Version 10.0.19044.2251]
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C:\Users\student>cd desktop
C:\Users\student\Desktop>javac AreaOfShapes.java
C:\Users\student\Desktop>java AreaOfShapes
Menu
1.Area of Rectangle
2.Area of Traingle
3.Area of Circle
Enter your choice : 1
Enter length and breadth for area of rectangle :
30 2
Area of Rectangle is 60.0

C:\Users\student\Desktop>java AreaOfShapes
Menu
1.Area of Rectangle
2.Area of Traingle
3.Area of Circle
Enter your choice : 2
Enter breadth and height for area of traingle :
15 35
Area of Triangle is 262.5

C:\Users\student\Desktop>java AreaOfShapes
Menu
1.Area of Rectangle
2.Area of Traingle
3.Area of Circle
Enter your choice : 3
Enter radius for area of circle :
20
Area of Circle is 1257.1428
```

LAB PROGRAM 5: BANK PROGRAM

CODE

```
import java.util.Scanner;

class Account
{
    String customer_name;
    long acc_no;
    float bal;
    Scanner s = new Scanner(System.in);
    public void input()
    {
        System.out.print("\nEnter the Customer Name: ");
        customer_name = s.nextLine();
        System.out.print("\nEnter the Account Number: ");
        acc_no = s.nextLong();
        System.out.print("\nEnter the Starting Amount (Minimum Amount = 5000):");
        bal = s.nextFloat();
        if(bal<5000f)
        {
            System.out.println("\nAccount Balance cannot be less than 5000.0 \n");
            System.exit(0);
        }
    }
}
```

```
public void display()
{
    System.out.println("\nCustomer Name: "+customer_name);
    System.out.println("Account Number: "+acc_no);
    System.out.println("Amount: "+bal);
}
}
```

```
class Savings extends Account
{
    Scanner s = new Scanner(System.in);
    float deposit,withdraw,interest;
    public void deposit()
    {
        System.out.print("\nEnter the amount to be deposited: ");
        deposit = s.nextFloat();
        bal+=deposit;
        System.out.println("\nBalance: "+bal);
    }
    public void withdraw()
    {
        System.out.print("\nEnter the amount to be withdrawn: ");
        withdraw = s.nextFloat();
        if(bal<5000)
        {
            System.out.println("\nInsufficient Balance");
        }
    }
}
```

```
    }  
    else  
    {  
        bal-=withdraw;  
        System.out.println("\nAmount Withdrawn: "+withdraw+"\nBalance:  
"+bal);  
    }  
}
```

```
public void check_Bal()  
{  
    if(bal<5000)  
    {  
        System.out.println("\nInsufficient Balance!!\nBalance: "+bal);  
    }  
    else  
    {  
        System.out.println("\nBalance: "+bal);  
    }  
}
```

```
public void interest()  
{  
    interest=(bal*6)/100;  
    bal+=interest;  
    System.out.println("\nInterest Credited: "+interest+"\nBalance :"+bal) ;  
}
```

```
}
```

```
class Current extends Account
```

```
{
```

```
    float deposit, withdraw, penalty;
```

```
    public void deposit()
```

```
    {
```

```
        System.out.print("\nEnter Amount to be deposited: ");
```

```
        deposit = s.nextFloat();
```

```
        bal += deposit;
```

```
        System.out.println("Balance: " + bal);
```

```
    }
```

```
    public void check_Bal()
```

```
    {
```

```
        if (bal < 5000)
```

```
        {
```

```
            penalty = (0.1f * bal);
```

```
            System.out.println("\nInitial Account Balance: "+bal);
```

```
            bal = bal-penalty;
```

```
            System.out.println("\nLow balance!\nPenalty Amount: " + penalty +  
"\nAccount balance: " + bal);
```

```
        }
```

```
    else
```

```
{  
    System.out.println("\n Balance: " + bal);  
}  
}
```

```
public boolean check_Bal_part_2()  
{  
    if (bal < 5000)  
    {  
        penalty = (0.1f * bal);  
        System.out.println("\nInitial Account Balance: "+bal);  
        bal = bal-penalty;  
        System.out.println("\nLow Balance!\nPenalty Amount: " + penalty +  
"\nAccount balance: " + bal);  
        return false;  
    }  
    return true;  
}
```

```
public void withdraw()  
{  
    System.out.print("\nEnter Amount to withdraw: ");  
    withdraw = s.nextFloat();  
    if(check_Bal_part_2())  
    {  
        bal-=withdraw;
```



```
        System.out.println("\nAmount Withdrawn: "+withdraw+"\nBalance:
"+bal);
    }
}
```

```
public void chequebook()
{
    System.out.println("\nCheque Book has been Issued!");
}
}
```

```
public class Bank
{
    public static void main(String[] args)
    {
        Scanner s = new Scanner(System.in);
        String ch;
        int n;
        Current c = new Current();
        Savings sa = new Savings();
        System.out.print("\nEnter the Account Type (S for Savings , C for Current) :
");
        ch = s.next();

        switch(ch.toLowerCase())
```

```
{
    case "s" : sa.input();
        do
        {
            System.out.print("\n1. Deposit \n2. Withdrawal \n3. Check
Balance \n4. Check Interest"
                +"\n5. Show Account Details \n6. Exit Transaction\n\nEnter
your choice: ");
            n = s.nextInt();
            switch(n)
            {
                case 1 : sa.deposit();
                    break;
                case 2 : sa.withdraw();
                    break;
                case 3 : sa.check_Bal();
                    break;
                case 4 : sa.interest();
                    break;
                case 5 : sa.display();
                    break;
                case 6 : System.out.println("\nExiting Transaction!");
                    System.exit(0);
                    break;
                default : System.out.println("\nInvalid Operation");
            }
        }
```

```
        }while(true);
    case "c" : c.input();
        do {
            System.out.print("\n1. Deposit \n2. Withdrawal \n3. Check
Balance \n4. Issue Cheque Book"
                + "\n5. Show Account Details \n6. Exit Transaction\n\nEnter
your choice: ");
            n = s.nextInt();
            switch (n) {
                case 1:
                    c.deposit();
                    break;
                case 2:
                    c.withdraw();
                    break;
                case 3:
                    c.check_Bal();
                    break;
                case 4:
                    c.chequebook();
                    break;
                case 5:
                    c.display();
                    break;
                case 6:
                    System.out.println("\nExiting Transaction!");
```

```

        System.exit(0);
        break;
    default:
        System.out.println("\nInvalid Operation");
    }
}while(true);
default : System.out.println("\nInvalid Choice");
break;
}
}
}

```

```

Exiting Transaction!
C:\Users\student\Desktop>java Bank.java
Enter the Account Type (S for Savings , C for Current) : c
Enter the Customer Name: rashtri km
Enter the Account Number: 123456789
Enter the Starting Amount (Minimum Amount = 5000): 6000
1. Deposit
2. Withdrawal
3. Check Balance
4. Issue Cheque Book
5. Show Account Details
6. Exit Transaction
Enter your choice: 1
Enter Amount to be deposited: 6000
Balance: 12000.0
1. Deposit
2. Withdrawal
3. Check Balance
4. Issue Cheque Book
5. Show Account Details
6. Exit Transaction
Enter your choice: 2
Enter Amount to withdraw: 5000
Amount Withdrawn: 5000.0
Balance: 7000.0
1. Deposit
2. Withdrawal
3. Check Balance
4. Issue Cheque Book
5. Show Account Details
6. Exit Transaction

```

```

Enter the amount to be deposited: 1000
Balance: 6500.0
1. Deposit
2. Withdrawal
3. Check Balance
4. Check Interest
5. Show Account Details
6. Exit Transaction
Enter your choice: 2000
Invalid Operation
1. Deposit
2. Withdrawal
3. Check Balance
4. Check Interest
5. Show Account Details
6. Exit Transaction
Enter your choice: 2
Enter the amount to be withdrawn: 2000
Amount Withdrawn: 2000.0
Balance: 4500.0
1. Deposit
2. Withdrawal
3. Check Balance
4. Check Interest
5. Show Account Details
6. Exit Transaction
Enter your choice: 3
Insufficient Balance!!
Balance: 4500.0
1. Deposit
2. Withdrawal

```

```

Insufficient Balance!!
Balance: 4500.0

1. Deposit
2. Withdrawal
3. Check Balance
4. Check Interest
5. Show Account Details
6. Exit Transaction

Enter your choice: 4

Interest Credited: 270.0
Balance :4770.0

1. Deposit
2. Withdrawal
3. Check Balance
4. Check Interest
5. Show Account Details
6. Exit Transaction

Enter your choice: 5

Customer Name: Rashtri km
Account Number: 12345678
Amount: 4770.0

1. Deposit
2. Withdrawal
3. Check Balance
4. Check Interest
5. Show Account Details
6. Exit Transaction

Enter your choice: 6

Exiting Transaction!

C:\Users\student\Desktop>java Bank.java

Enter the Account Type (S for Savings , C for Current) : c

Enter the Customer Name: rashtri km

```

```

Microsoft Windows [Version 10.0.19044.2251]
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C:\Users\student>cd desktop

C:\Users\student\Desktop>javac Bank.java

C:\Users\student\Desktop>java Bank.java

Enter the Account Type (S for Savings , C for Current) : s

Enter the Customer Name: Rashtri km

Enter the Account Number: 12345678

Enter the Starting Amount (Minimum Amount = 5000): 5500

1. Deposit
2. Withdrawal
3. Check Balance
4. Check Interest
5. Show Account Details
6. Exit Transaction

Enter your choice: 1000

Invalid Operation

1. Deposit
2. Withdrawal
3. Check Balance
4. Check Interest
5. Show Account Details
6. Exit Transaction

Enter your choice: 1

Enter the amount to be deposited: 1000

Balance: 6500.0

1. Deposit
2. Withdrawal
3. Check Balance

```

```

1. Deposit
2. Withdrawal
3. Check Balance
4. Issue Cheque Book
5. Show Account Details
6. Exit Transaction

Enter your choice: 3

Balance: 7000.0

1. Deposit
2. Withdrawal
3. Check Balance
4. Issue Cheque Book
5. Show Account Details
6. Exit Transaction

Enter your choice: 4

Cheque Book has been Issued!

1. Deposit
2. Withdrawal
3. Check Balance
4. Issue Cheque Book
5. Show Account Details
6. Exit Transaction

Enter your choice: 5

Customer Name: rashtri km
Account Number: 123456789
Amount: 7000.0

1. Deposit
2. Withdrawal
3. Check Balance
4. Issue Cheque Book
5. Show Account Details
6. Exit Transaction

Enter your choice: 6

```

LAB PROGRAM 6: AGE EVALUATION - EXCEPTION HANDLING

CODE

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

```
public class Age
```

```
{
```

```
    public static void main(String[] args) throws WrongAge,InvalidAge
```

```
    {
```

```
        new Son();
```

```
    }
```

```
}
```

```
class WrongAge extends Exception
```

```
{
```

```
    public String getMessage()
```

```
    {
```

```
        return "Age Cannot Be Negative";
```

```
    }
```

```
}
```

```
class InvalidAge extends Exception
```

```
{  
    public String getMessage()  
    {  
        return "Son's Age cannot be greater than Father's!";  
    }  
}
```

```
class Father
```

```
{  
    Scanner s = new Scanner(System.in);  
    int f;  
    Father() throws WrongAge  
    {  
        System.out.print("Enter the Father's Age: ");  
        f = s.nextInt();  
        try  
        {  
            if(f<0)  
                throw new WrongAge();  
        }  
        catch(WrongAge e1)  
        {  
            System.out.println(e1.getMessage());  
        }  
    }  
}
```

```
        System.exit(0);  
    }  
}  
}
```

```
class Son extends Father
```

```
{  
    int son;  
    Son() throws WrongAge,InvalidAge  
    {  
        super();  
        System.out.print("Enter the Son's Age: ");  
        son = s.nextInt();  
        try  
        {  
            if(son<0)  
                throw new WrongAge();  
        }  
        catch(WrongAge e2)  
        {  
            System.out.println(e2.getMessage());  
            System.exit(0);  
        }  
    }  
}
```



```

    }

    try

    {

        if(son>f)

            throw new InvalidAge();

    }

    catch(InvalidAge e3)

    {

        System.out.println(e3.getMessage());

        System.exit(0);

    }

    System.out.println("Ages are appropriate");

}

```

```

C:\Users\bmsccese>javac Age.java
error: file not found: Age.java
Usage: javac <options> <source files>
Use --help for a list of possible options

C:\Users\bmsccese>cd Desktop

C:\Users\bmsccese\Desktop>javac Age.java

C:\Users\bmsccese\Desktop>java Age.java
Enter the Father's Age: 40
Enter the Son's Age: 20
Ages are appropriate

C:\Users\bmsccese\Desktop>java Age.java
Enter the Father's Age: 30
Enter the Son's Age: 50
Son's Age cannot be greater than Father's!

C:\Users\bmsccese\Desktop>java Age.java
Enter the Father's Age: -1
Age Cannot Be Negative

C:\Users\bmsccese\Desktop>java Age.java
Enter the Father's Age: 50
Enter the Son's Age: -1
Age Cannot Be Negative

```

LAB PROGRAM 7: MULTI-THREADING

CODE

```
class MyThread extends Thread
{
    long time;
    private volatile boolean running = true;
    MyThread(){
        System.out.println("Default");
    }
    MyThread(String name, long time)
    {
        super(name);
        this.time = time;
    }
    public void pause()
    {
        running = false;
    }
    public void run()
    {
        try
        {
            while(running)
            {
```

```
        System.out.println(this.getName());
        Thread.sleep(time*1000);
    }
}
catch(InterruptedException ie)
{
    System.out.println("Exception caught in method");
}

}
}

class Main
{
    public static void main(String [] args)
    {
        MyThread mt1 = new MyThread("BMS", 10);
        MyThread mt2 = new MyThread("CSE", 2);
        mt1.start();
        mt2.start();
        Try
        {
            Thread.sleep(20*1000);
            mt1.pause();
            mt2.pause();
        }
    }
}
```

```
        catch(InterruptedException ie)
        {
            System.out.println("Exception caught in main");
        }
    }
}
```

```
C:\Users\PRAJWAL\Desktop\safwan output>java Main
CSE
BMS
CSE
CSE
CSE
CSE
BMS
CSE
CSE
CSE
CSE
CSE
BMS
```

