

**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

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Department of Computer Science and Engineering



CERTIFICATE

This is to certify that the Lab work entitled “**OBJECT ORIENTED JAVA PROGRAMMING**” carried out by **PRAJWAL G(1BM21CS134)**, 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 Object Oriented Java Programming 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);
}
}
}
```

① Quadratic Equation

18/11/22

```
import java.util.*;
import java.lang.Math;
class quadratic
{
    public static void main (String[] args)
    {
        Scanner sc = new Scanner (System.in);
        double a1;
        double a2;
        System.out.println ("enter values of a, b, c");
        int a = sc.nextInt();
        System.out.println ("a is" + a);
        int b = sc.nextInt();
        System.out.println ("b is" + b);
        int c = sc.nextInt();
        System.out.println ("c is" + c);
        int d = (b*b) - (4*a*c);
        System.out.println ("d is" + d);
        if (d > 0)
        {
            System.out.println ("roots are real and distinct");
        }
    }
}
```

```
r1 = (-b + Math.sqrt(d) / (2*a));
```

```
r2 = (-b - Math.sqrt(d) / (2*a));
```

```
System.out.println("The roots are " + r1 + " and " + r2);
```

```
}
```

```
else if (d == 0)
```

```
{
```

```
System.out.println("roots are real and equal");
```

```
r1 = r2 = (-b) / (2*a);
```

```
System.out.println("The roots are " + r1 + " and " + r2);
```

```
}
```

```
else
```

```
{
```

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

```
r1 = -b / (2*a);
```

```
r2 = (Math.sqrt(Math.abs(d))) / (2*a);
```

```
System.out.println("r1 = " + r1 + "i" + r2);
```

```
System.out.println("r2 = " + r1 + "-i" + r2);
```

```
}
```

```
}
```

```
}
```

```
Select Command Prompt

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);
}
}
```

② Book details :- Week-2

```
import java.io.*;
import java.util.*;
class Book
{
    String title, author;
    double price;
    int numPages;
    Book()
    {
        title = "Default";
        author = "Default";
        price = 0.0;
        numPages = 0;
    }
}
```

```
void setTitle (String t)
{
    title = t;
}
```

```
void setAuthor (String a)
{
    author = a;
}
```

```
void setPrice (double p)
{
    price = p;
}
```

```
void setPages(int np)
```

```
{  
    numPages = np;  
}
```

```
public String toString()
```

```
{  
    return title + "\t" + author + "\t" + price + "\t" + numPages + "\n";  
}
```

```
}
```

```
}
```

```
class BookDetails {
```

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

```
{  
    String t, a;
```

```
    double p;
```

```
    int np, n;
```

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

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

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

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

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

```
{
```

```
        System.out.println("Enter the title of the book");
```

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

```
        System.out.println("Enter the author of the book");
```

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

```

③ System.out.println("Enter the Price of Books");
int P = sr.nextInt();
System.out.println("Enter the number of pages of the book");
int P = sr.nextInt();
{
    b[i] = new Book();
    b[i].setTitle(t);
    b[i].setAuthor(a);
    b[i].setPrice(p);
    b[i].setPages(pp);
}
System.out.println("Title | Author | Price | Pages");
for (int i = 0; i < n; i++)
{
    System.out.println(b[i]);
}

```

Output:

Enter number of Books 3

Enter the Title of Book RAM

Enter Author RAMU

Enter Price 1000

Enter number of pages 100

Title	Author	Price	Pages
RAM	RAMU	1000.0	100

③ → 1 RA

import java.io.

import java.util.

class student {

String name;

String USN;

int no of Courses

int credits[] =

int marks[] =

Scanner s = new

Student()

{

no of Courses

3

void setName

{

name = s

3

void setUSN

{

USN = s

3

void setCours

{

no of Courses

3

```
Command Prompt
C:\Users\bmsce>javac BookDetails.java

C:\Users\bmsce>java BookDetails
Enter the number of Books
1
Enter the Title of the Books
jesus
Enter the Author of the Books
inshallah
Enter the Price of the Books
200
Enter the Number of pages of the Books
100
Title      Author      Price      Pages
jesus      inshallah      200.0      100
```

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]);
}

}

}
```

3) PA

```
import java.io.*;
```

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

```
class student {
```

```
    String name;
```

```
    String USN;
```

```
    int no of Courses;
```

```
    int Credits [] = new int [10];
```

```
    int marks [] = new int [10];
```

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

```
    student ()
```

```
    {
```

```
        no of Courses = 0;
```

```
    }
```

```
    void set Name (String s)
```

```
    {
```

```
        name = s;
```

```
    }
```

```
    void set USN (String s)
```

```
    {
```

```
        USN = s;
```

```
    }
```

```
    void set Courses (int s)
```

```
    {
```

```
        no of Courses = s;
```

```
    }
```

```
void input() {
```

```
    for (int i = 0; i < no of courses; i++) {
        System.out.println("Enter credit of course " + (i+1));
        credits[i] = s.nextInt();
        System.out.println("Enter marks of course " + (i+1));
        marks[i] = s.nextInt();
    }
}
```

```
double returnSGPA() {
```

```
    double d = 0, s = 0;
    for (int i = 0; i < no of courses; i++) {
        d += credits[i] * marks[i];
        s += credits[i];
    }
    return d / (s + 10);
}
```

```
public class sgpa {
```

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

```
        Scanner s = new Scanner(System.in);
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter USN");
        String st = sc.nextLine();
        s.setNext(st);
```

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

```
        String sq = sc.nextLine(); s.setUSN(sq);
```

```
        System.out.println("Enter no of courses"); int n = sc.nextInt();
```

```
        i.setCourses(n); s.input(); double d = s.returnSGPA();
```

```
        System.out.println("SGPA of student is " + d); sc.close(); }
}
```

⑦ Shape

```
import java.util.
```

```
abstract class a {
```

```
    double x, y;
    a(double i, double j) {
```

```
        x = i;
```

```
        y = j;
```

```
    }
```

```
abstract double
```

```
    {
```

```
class rect extends
```

```
{
```

```
    rect(double i,
```

```
        {
```

```
            super(i, j);
```

```
        }
```

```
double area
```

```
{
```

```
    return x * y
```

```
}
```

```
}
```

```
class tri extends a
```

```

C:\Users\bmscece\Desktop>java SGPA
Enter the number of subjects: 5
Enter Student USN: 1BM21CS180
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: 1BM21CS180
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 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 Triangle\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"); }

}

```


① Shape

weenu

9/12/22

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

```
abstract class a {
```

```
    double x, y;
```

```
    a(double i, double j)
```

```
{
```

```
        x = i;
```

```
        y = j;
```

```
}
```

```
    abstract double area();
```

```
}
```

```
class rect extends a
```

```
{
```

```
    rect(double i, double j)
```

```
{
```

```
        super(i, j);
```

```
}
```

```
    double area()
```

```
{
```

```
        return x * y;
```

```
}
```

```
}
```

```
class tri extends a
```

```
{  
    return 0.5 * x * y;  
}
```

```
}  
class cin extends a  
{  
    cin(double i)  
    {  
        super(i, i);  
    }  
    double area()  
    {  
        return 3.14 * x * y;  
    }  
}
```

```
class week 4 {  
    public static void main(String args[])  
    {
```

```
        Scanner sc = new Scanner(System.in);  
        System.out.println("Enter the length and breadth of  
        a rectangle :");
```

```
        double l = sc.nextDouble();  
        double b = sc.nextDouble();
```





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;
```

```
}
```

```
}
```

```
}
```















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"); }
```

```
}
```







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 ThreadRunner
{
    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");  
}  
}  
}
```





