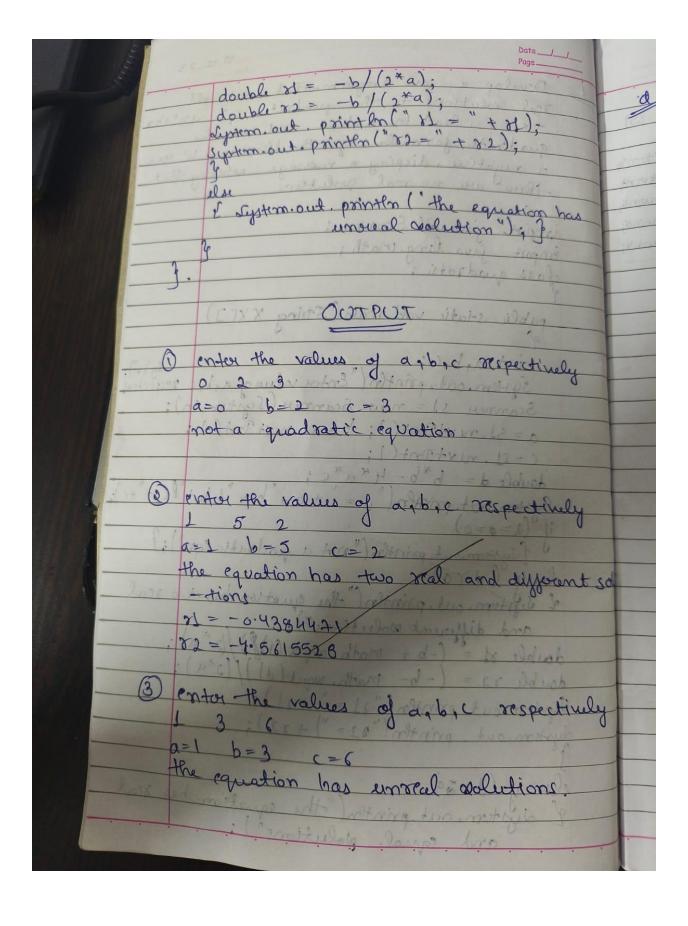
## Jasmeet Singh (1BM22CS116)

**Q1.** Develop a Java program that prints all real solutions to the quadratic equation ax2+bx+c = 0. Read in a, b, c and use the quadratic formula. If the discriminant b2-4ac is negative, display a message stating that there are no real solutions.

```
import java.util.Scanner;
import java.lang.Math;
class quadratic
{public static void main(String XX[])
    int a,b,c;
   System.out.println("enter the values of a,b,c respectively\n");
   Scanner s1= new Scanner(System.in);
   a = s1.nextInt();
   b = s1.nextInt();
   c = s1.nextInt();
   double d=b*b - 4*a*c;
   System.out.println("a = " + a +" b = " + b +" c = " + c);
   if(a==0) {System.out.println("not a quadratic equation");}
    else if( d>0)
      System.out.println("the equation has two real and different solutions");
      double r1=(-b + Math.sqrt(d))/(2*a);
      double r2=(-b - Math.sqrt(d))/(2*a);
      System.out.println("r1 = " + r1);
      System.out.println("r2 = " + r2);
   else if(d==0)
      System.out.println("the equation has real and equal solutions");
     double r1= -b/(2*a);
     double r2= -b/(2*a);
      System.out.println("r1 = " + r1);
      System.out.println("r2 = " + r2);
   else if(d<0)
```

```
System.out.println("the equation has unreal solutions");
}
}
```

Date 18/12/23. Develop a java program that prints all real realutions to the quadratic equ tc=0, Read in a b, c and use the quadratic formula. 21 - the discriminat 62-49 is regative, display a morrage weating that there are no real geoletions. import- java. util. Scanner; import java lang math; class quadratic public static void main (String XXI) int a, b, c; System. out. println ("Enter value of a, b, c respective Scanney s1 = new Scanner (System in); a = Sl. next ant (); b = sl. next ant (); (= 51. nextInt(); double d = b\*b-4\*a\*c; System.out. println(a = "+a+"b="+b+"(c="+c); of Lystem out printer (" not a graduatic eqn"); of Signim. out. println ("the quation has two real and different colutions"); double of = (-b + Math. expet (a) 1) /(2 + a). double r2 = (-b- Math. soput(d))/(2\*a); dystem.out. println(" x1 = "+ x1) System.out. println("82=") + 72); else if (d=0)
2 destron out println ("the equation has real
and equal pollutions");



**Q2.** Develop a Java program to create a class Student with members usn, name, and array credits and an array marks. Include methods to accept and display details and a method to calculate SGPA of a student.

```
import java.util.Scanner;
class student{
   String USN , name;
    Scanner S1= new Scanner(System.in);
    int size = S1.nextInt();
    float credits[] = new float[size];
    float marks[] = new float[size];
    void accept(){
        USN= S1.next();
        name= S1.next();
        System.out.println("Marks in the following subjects are 1.Maths 2.physics
3.C progm 4.web 5.kannada 6.IDT 7.civil 8.english");
        for(int i=0;i<size;i++){</pre>
            System.out.print((i+1)+" = ");
            marks[i]= S1.nextInt();
        System.out.println("respective credits of subjects are 1.Maths 2.physics
3.C progm 4.web 5.kannada 6.IDT 7.civil 8.english");
        for(int i=0;i<size;i++){</pre>
            System.out.print((i+1)+" = ");
        credits[i]= S1.nextInt();
    void display(){
        System.out.println("USN: "+USN+" name: "+name);
        System.out.println("Marks and credits in the following subjects are
1.Maths 2.physics 3.C progm 4.web 5.kannada 6.IDT 7.civil 8.english");
        for(int i=0;i<size;i++){</pre>
            System.out.print((i+1)+" .marks = "+marks[i]+" credits="+credits[i]+"
 );
    int gpa(int i){
            if(marks[i]>=90) return 10;
            else if(marks[i]>=80 && marks[i]<=89) return 9;</pre>
            else if(marks[i]>=70 && marks[i]<=79) return 8;</pre>
            else if(marks[i]>=60 && marks[i]<=69) return 7;</pre>
```

```
else if(marks[i]>=50 && marks[i]<=59) return 6;</pre>
        else if(marks[i]>=40 && marks[i]<=49) return 5;</pre>
        else if(marks[i]>=80 && marks[i]<=89) return 4;</pre>
        else return 0;
float sgpa(){
    float SGPA , sum=0;
    for(int i=0;i<size;i++){</pre>
        sum=sum+gpa(i)*credits[i];
    //total credits=20
    SGPA = sum/20;
    return SGPA;
class call{
    public static void main (String[] args) {
        student S1 = new student();
        S1.accept();
        S1.display();
        float Ans;
        Ans = S1.sgpa();
        System.out.println("SGPA of the student is : "+Ans);
```

Develop a java program to create a clan cotal with members osh, name, an array and an orray makes include methods to accept and display details and a method to calculate SCATA of a student import java utilisanner class student 1 string und, name; Scanner 11 = new scanner (suprtime in); int size = St. nextont (); foot (redits[] = new foot [vizi]; flood market I - new float Taix I; Void accept () USM = SI. Mext(); name = St next(); System out print In I marks in the following subjects 1. Maths 2. physics 3. c program 4. web 5. Kannada 6. IDT 7. Will 8. inglish "; for (int & i=o; ic vize; int) & System.out. print ((i+1)+ "="); markes [i] = st. next ant(); y System out privilen " orspective cordin of subject are I mathe 2 physics 3 company 4 web 5. Kongrada 6 JAT 7 civil 8 english for (int 1=0; issize; Ht) ] Suptim out print ((1+1)+"="); credity [i] = st next Int (); 1 void display of for (int i=0; icsize; in) (dystem out printly ((i)) +" marks = " + marks [] , +" credits = " + coodis [i]+' '); int gpalinti)

if (mares (i) > = 90) return 10; else if (marks ti) 7-80 ft so marks [i] 5-89) der y (maresti] > = 70 & & markstile = 79) retong (marks [i] 7 = 60 At marks [i] (~69) return - (mares [i) 7 - 50 MA marks ti] (= 5) returns (marks tid 7 = 40 At marks (1) = 13) returns (marks [i] 7 = 35 AA marks [i] < 46) returns else return o; float sapal) { float SCAPA, sum =0; for (int i=0; i < size; in) { 11-total credits = 20 SCAPA = dum /20 Clas call & ( 1) Hand to poblic Hatic void main (string [] augs) Student SI = new stodent (); Stacopt (); SI display(); float Ans = si sapa (); Suprim out pointly ("saist of the student is: + Am);

Q3. Create a class Book which contains four members: name, author, price, num\_pages. Include a constructor to set the values for the members. Include methods to set and get the details of the objects. Include a toString() method that could display the complete details of the book. Develop a Java program to create n book objects.

```
import java.util.Scanner;
class Book{
   String name, Author;
    int price,num_pages;
    Book(){};
    Book( String name, String Author, int price, int num_pages){
        this.name=name;
        this.Author=Author;
        this.price=price;
        this.num_pages=num_pages;
   void set(){
        System.out.println("enter details of book :");
        Scanner S1= new Scanner(System.in);
        name = S1.next();
        Author = S1.next();
        price = S1.nextInt();
        num_pages= S1.nextInt();
   void get(){
        System.out.println("name: "+name+" Author: "+Author+" price: "+price+"
num_pages: "+num_pages);
    public String toString(){
        return("name: "+name+" Author: "+Author+" price: "+price+" num_pages:
 +num_pages);
class bookdemo{
     public static void main (String[] args) {
       Scanner S= new Scanner(System.in);
        System.out.print("print n: ");
        n=S.nextInt();
```

```
Book B[] = new Book[n];
    B[0] = new Book("cant_hurt_me","David_googins",700,360);
    B[0].get();
    for(int i=1;i<n;i++){
        B[i]= new Book();
        B[i].set();
}
System.out.println(B[1].toString());
for(int i=2;i<n;i++){
        B[i].get();
    }
}</pre>
```

Date 01/ 6/24 A3 ( reate a clap Book which contains four numbers : name, author, price, non-pages. Include a const - buctor to det the values of the members. Indu-de members to set and get the details of the object. Include a tostring() method that could display the complete details of the book · Develop a juva program to create n book objects > impost java util scanner; class Book 2 String name, Author; int price, nom pages; Book (38 string name, string Author, int price int nom-pages){ this name = name; this - A othor = Author; this. price = price; this nom pages = nom-pages; void set ( ) { Scanner SI = new Scanner (System in); name = 51, next (); Author = SI. next(); prie=11. nextont (); num\_pages = SI. nex+ Book () Void get(){ Lystem out printer ("Name: "+ name + Author + Au Class bookdimo t public string tostring () of return "Name: + name + " Author"

C-841 class book demo public state void main ( \$ string xx()) int n; Scanner S= new Scanner (system. in); System out printle ("Enter " ") n= S. next Bott); Book BIJ- new BOOKT); B(0) = new Book (" cand hard mi", Day 100,360); system.out. pointln (B LoJ. tostoing ()); B[i] = new Book(); BIJ. out (/:

Q4. Develop a Java program to create an abstract class named Shape that contains two integers and an empty method named printArea(). Provide three classes named Rectangle, Triangle and Circle such that each one of the classes extends the class Shape. Each one of the classes contain only the method printArea() that prints the area of the given shape.

```
abstract class shape{
    int a,b;
    abstract void printarea();
class rectangle extends shape{
    rectangle(int x,int y){
        a=x;b=y;
   void printarea(){
        System.out.println("area of rectangle is : "(a*b));
class triangle extends shape{
   triangle(int x,int y){
        a=x;b=y;
   void printarea(){
        System.out.println("area of triangle is : "(0.5*a*b));
class circle extends shape{
    circle(int x){
        a=x;
   void printarea(){
        System.out.println("area of circle is : "(3.14*a*a));
class shapedemo{
    public static void main(String xx[]){
        rectangle r=new rectangle(5,4);
        triangle t=new triangle(5,4);
        circle c=new circle(7);
        r.printarea();
```

```
t.printarea();
    c.printarea();
}
```

Develop a Java program to create an abstract class named schape that contains two integers and an empty withodramed point Area () Provide those larges named Rectangle, to and circle such that each of the classe extends the class schape. Each of the contain only the method print trea () that prints the area of the given Shape abstract class shape intagb; abstract void print meal); class Rectangle extends schape Rectangle lint n , int y soil " Area of rectangle is Clars triungle extends shape of triangle (int x, int y) 1 p= 8; void print Area SOP ("The Area of triangle is"+

class circle extands schape circle (int ) { a=x;} void print area ( SOP (" area of circle is " + (3.14 ") ") Class ShapeDemo L Prvm (String XXI) Rectangle V = new Rectangle triangle t = new triangle (5, 2) circle ( = new circle (2) r. printtrea(); t. printArea (); c. printaga (). ( p frei , or pai) Donotaet TUTTUO area of Rectangle is 20 mangle is 10 civile 17 do glastono Domost

**Q5.** 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 methods 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;
class Account {
   String customerName;
   int accountNumber;
    String accountType;
    double balance;
   Account(String name, int accNo, String accType, double initialBalance) {
        customerName = name;
        accountNumber = accNo;
        accountType = accType;
        balance = initialBalance;
    void deposit(double amount) {
        balance += amount;
        System.out.println("Deposit of $" + amount + " successful.");
    void displayBalance() {
       System.out.println("Balance: $" + balance);
```

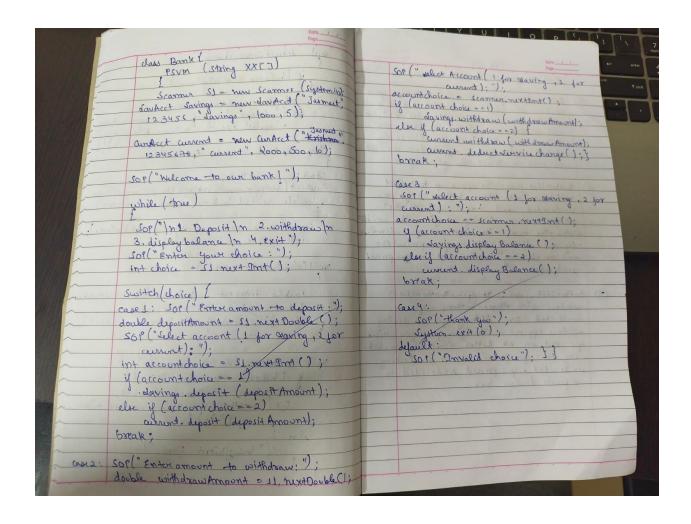
```
class CurAcct extends Account {
    double minBalance;
    double serviceCharge;
    CurAcct(String name, int accNo, String accType, double initialBalance, double
minBal, double charge) {
        super(name, accNo, accType, initialBalance);
        minBalance = minBal;
        serviceCharge = charge;
    void withdraw(double amount) {
        if (balance - amount >= minBalance) {
            balance -= amount;
            System.out.println("Withdrawal of $" + amount + " successful.");
        } else {
            System.out.println("Insufficient funds. Withdrawal failed.");
    void deductServiceCharge() {
        if (balance < minBalance) {</pre>
            balance -= serviceCharge;
            System.out.println("Service charge of $" + serviceCharge + " applied
due to balance below minimum.");
class SavAcct extends Account {
    double interestRate;
    SavAcct(String name, int accNo, String accType, double initialBalance, double
interest) {
        super(name, accNo, accType, initialBalance);
        interestRate = interest;
    void calculateInterest() {
        double interest = balance * interestRate / 100;
        balance += interest;
        System.out.println("Interest of $" + interest + " added.");
```

```
void withdraw(double amount) {
        if (balance - amount >= 0) {
            balance -= amount;
            System.out.println("Withdrawal of $" + amount + " successful.");
            System.out.println("Insufficient funds. Withdrawal failed.");
class Bank {
   public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        SavAcct savings = new SavAcct("John Doe", 123456, "Savings", 1000, 5);
     CurAcct current = new CurAcct("Jane Doe", 654321, "Current", 2000, 500, 10);
        System.out.println("Welcome to our bank!");
        while (true) {
           System.out.println("\n1. Deposit\n2. Withdraw\n3. Display Balance\n4.
Exit");
            System.out.print("Enter your choice: ");
            int choice = scanner.nextInt();
            switch (choice) {
                case 1:
                    System.out.print("Enter amount to deposit: ");
                    double depositAmount = scanner.nextDouble();
                    System.out.print("Select account (1 for Savings, 2 for
Current): ");
                    int accountChoice = scanner.nextInt();
                    if (accountChoice == 1)
                        savings.deposit(depositAmount);
                    else if (accountChoice == 2)
                        current.deposit(depositAmount);
                    break;
                case 2:
                    System.out.print("Enter amount to withdraw: ");
                    double withdrawAmount = scanner.nextDouble();
```

```
System.out.print("Select account (1 for Savings, 2 for
Current): ");
                    accountChoice = scanner.nextInt();
                    if (accountChoice == 1)
                        savings.withdraw(withdrawAmount);
                    else if (accountChoice == 2) {
                        current.withdraw(withdrawAmount);
                        current.deductServiceCharge();
                    break;
                case 3:
                    System.out.print("Select account (1 for Savings, 2 for
Current): ");
                    accountChoice = scanner.nextInt();
                    if (accountChoice == 1)
                        savings.displayBalance();
                    else if (accountChoice == 2)
                        current.displayBalance();
                    break;
                case 4:
                    System.out.println("Thank you for banking with us!");
                    System.exit(0);
                default:
                    System.out.println("Invalid choice. Please try again.");
```

develop a Java program to escate a class Bank That maintains two kinds of account for its austomers, one called davings account and the other unrent account. The seavings account provides compound interest and withdraw facilitis but no chaque book facility the current account provides cheque book facility but no interest account holden should also maintain a minimum balance and if the balance fall below, a service charge is imposed. Create a class Account that setores customer name, account number and type of account . From this berine the auri- account acc to make them more specific to their requirements. Include the noccerrary methods a) Accept deposit from customer 1 update balance display balance O compute and deposit interest Department withdrawl I opdate the balance import java vtil scanner; Stoing constoner Name; int account Number; string account type; double balance Account ( Stoing name, int ace No, stoing accetype , double initial balance customer Name = Name; account Number = acc No; account type = acctype;

	Pogs
balance = initial balance;	Dots
balance - Initial care	val deduct survice charge ()
void deposit (double amount)	y (balance < minBalance)
Value way	
balance + amount of 3	"+ amoons alance - dervice harge;
balance += amount;  balance += amount;  system.act.println( apposit of 3	us); soft deriving change of the + scenice change
	"tamoons sope " dervice horge ; service harge de service harge ; applied due to balance below minimal ; }}
	glass southert extends Account "
Yord display Balance ()	
(" a 0 " 1 0 ma).	double writer Rate;
SOP ("Balance: Rs" + balance);	double interest Rate; dans string acctype double initial balance, double initial)
class auxAcct extends Account	
Can dernies and	Super (name, accNo, acttype, mitalbalance);
double min balance;	Super (name, accho, alctique, initialhalarre); interestrate = interect, ]
double service charge;	
Cust Arct (ctoing name, intaccillo	, string void (alculate Interest ()
acctype, double initial balance	, double mile interest = belone interest Ratefice
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L balance = a mos	ont; soe (" widthrawl of the" + amount + succe
Soel "withdrawl of Ro" +	amountt squal is
" succes ful);	else L
- Long & Dietar Which	sorl indufficent soras ?
- elul y la malamada	else [  sor('indufficent fonds');}  see");
ela L 2001 "Innefficient balar	ne );
The state of the s	



**Q6.** Create a package CIE which has two classes- Student and Internals. The class Student has members like usn, name, sem. The class internals has an array that stores the internal marks scored in five courses of the current semester of the student. Create another package SEE which has the class External which is a derived class of Student. This class has an array that stores the SEE marks scored in five courses of the current semester of the student. Import the two packages in a file that declares the final marks of n students in all five courses.

```
package CIE;
import java.util.Scanner;
public class student
    public String USN, name;
    public int semester;
    Scanner S1 = new Scanner(System.in);
    public void set()
        System.out.println("USN of the student is : ");
        USN = S1.next();
        System.out.println("name of the student is : ");
        name = S1.next();
        System.out.println("semester of the student is : ");
        semester = S1.nextInt();
    public void get()
        System.out.println("USN of the student is: "+USN+"name of the student is
 "+name+"semester of the student is : "+semester);
package CIE;
import java.util.Scanner;
public class internal extends student
    Scanner S1 = new Scanner(System.in);
    public int internal marks[]= new int[5];
    public void setcie()
        System.out.println("1.Java 2.maths 3.DS 4.COA 5.DBMS ");
        for(int i=0;i<5;i++)
            System.out.print("\n"+(i+1)+".");
            internal_marks[i] = S1.nextInt();
    public void getcie()
        System.out.println("1.Java 2.maths 3.DS 4.COA 5.DBMS ");
        for(int i=0;i<5;i++)
        System.out.println((i+1)+"."+internal_marks[i]);
```

```
package SEE;
import CIE.student;
import java.util.Scanner;
public class external extends CIE.student
    Scanner s1 = new Scanner(System.in);
    public int see_marks[]=new int[5];
    public void setsee()
        System.out.println("1.Java 2.maths 3.DS 4.COA 5.DBMS ");
        for(int i=0;i<5;i++)
            System.out.print("\n"+(i+1)+".");
            see_marks[i]= s1.nextInt();
    public void getsee()
        System.out.println(" 1.Java 2.maths 3.DS 4.COA 5.DBMS ");
        for(int i=0;i<5;i++)</pre>
            System.out.println(i+"."+see_marks[i]);
import java.util.Scanner;
import CIE.student;
import CIE.internal;
import SEE.external;
public class fmarks
    public static void main(String XX[] )
        System.out.println("enter number of students : ");
        Scanner S1=new Scanner(System.in);
        n=S1.nextInt();
        CIE.student S[]=new student[n];
        CIE.internal I[]= new internal[n];
        SEE.external E[]= new external[n];
```

```
for(int i=0;i<n;i++)</pre>
            S[i] = new student();
            I[i]= new internal();
            E[i]=new external();
            System.out.println("Enter details of student : ");
            S[i].set();
            System.out.println("Enter internal marks of student (out of 50) : ");
            I[i].setcie();
            System.out.println("Enter see marks of student (out of 100) : ");
            E[i].setsee();
        for(int i=0;i<n;i++)</pre>
            System.out.println("details of student are : ");
            S[i].get();
            System.out.println("internal marks of student are : ");
            I[i].getcie();
            System.out.println("see marks of student are : ");
            E[i].getsee();
        //final marks calculation
        for (int i = 0; i < n; i++) {
            System.out.println("Marks of student " + S[i].name + ":");
            for (int j = 0; j < 5; j++) {
                int subjectTotalMarks = I[i].internal_marks[j] +
((E[i].see_marks[j])/2);
                System.out.println("Subject " + (j + 1) + " marks: " +
subjectTotalMarks);
            System.out.println();
```

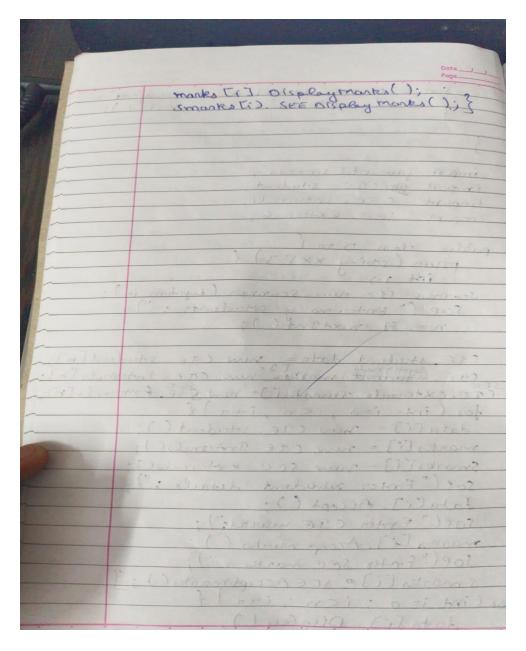
Create a package ( TE which has 2 clams student and Internals. The class student has members like UIN, name, som. The class Internal has an array that exteres the internal marks second in 5 course of the current semester of the setudent (reate another package SEE which h the class External which is derived class of setudent. This class has an array that stores the SEE marks secored in 5 cooks of wwent demester. Import the 2 packages in a file that decolores the final marks of in setudents in all 5 coopes Package (TE; import java Hil scanner; public class student ! public string name, USN; public int dem; public void accept ( ) } Scanner SI = new Scanner (system.in); name = st. next(); USN = (1; next (); sem = S1. nex+ Post(); public void display () of SOP (" student details: \n" + "Name: + name + " In USN: " + USN+"/n Semuster: 't sem ); }

package (TE 2 (iti) + "is + SEE MONTHS); Emport java othl. scanner; public class Internal extends extendent [
public int marks [] - new int []
public void Accept Mooks () { Scanner St = new Scanner (Systemin for ( int i=0; i < 5, i+1) impost java util scarner; import Cre internal; marks (i) = SI nex+ Toot (). 5 public void display Marks () [
for (int i=0; ISS; itt) f

sop ("marks obtained in cre

eurbjects att "+ (it1)+" is

+ marks [i]); impost SEE. Externalo public class Data? psvin (string XXT3) { int n; Scanner St - new Scanner ( Lystom in ); SOP (" Enter no of setudents: "); n = SI nex+2nf(); (IE. student data = new (IE student[n];
(IE. Student marks - new (TE. Internals[n];
(EEE. Externals [marky[]= new \$\$\frac{2}{2}\$\frac{2}{2}\$. Externals[n]; package SEE ; import (IE. student impost java. util. scaros ex; for (int i=0; i<n; i+7) { public class Extends mal extends ce study data [i] = new (IE. student (); marks [i] = new (IE. Intronals(); public int SEE marks [] = new int [s] Smarks[i] = new SEE. Externals(); public void SEEAcceptmonks () { Sof (" Enter soudent details:"); Scanner St = new Scanner (Systemin); data [i]. Accept (); for (int 100; ics; i+1) { JOP( " Enter (3E marks:"); SEEmarks [i] = II next Int (); marks [i] Accept morks (); JOP("Enter SEE marks:"); smarks (i) = (EEAcceptmanks();}
gar(int i=0; i<n; i+1) { public void SEE Display Marks () { fox (int i=0 ; i < 5; i++) { data [i] Display ();



**Q7.** Write a program 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 the input age=father's age.

```
class wrongageexception extends Exception{
    wrongageexception(String message){
        super(message);
    public String toString(){
        return "wrong age enetered";
class father{
    int age;
    father(int age) throws wrongageexception{
        if(age<0){
            throw new wrongageexception("age cannot be negative");
        this.age=age;
class son extends father{
    int sonage;
    son(int fatherage, int sonage) throws wrongageexception{
        super(fatherage);
        if(sonage >= fatherage){
            throw new wrongageexception("son age cannot be greater than father
age");
        this.sonage=sonage;
class exceptiondemo{
    public static void main(String xx[])
        try{
            father f=new father(40);
            son s=new son(f.age,25);
            System.out.println("father age :"+f.age);
            System.out.println("son age :"+s.sonage);
        catch(wrongageexception e){
            System.out.println("exception:"+e.toString());
            System.out.println("exception:"+e.getMessage());
```

write a program that demonstrates handling of exceptions in inheritance tree. (reate a basi class called father class, implement a import java otil scanner Clars WrongeAge Exception extends Exception Wrong Age Exception (string Message) {
Soper (Message); Class Father public father (int age ) throws wrong Age Exception { if (age <0) [
Throw new Wrong Age Exception

cannot be negative") this age = age; Class son extends father int sonage;

public son ( int fatherage, int stonage) throws wrong Age Exception (
super (featherage); if (iongage 7 = jutherage) therow new wrong Age Exception ("Son Age cannot be greather than father's Age"); this . donage = Donoge clas Main POVM ( Sming XX[] new son? Sof (" jather age " + jather age Sof (" donage " + don-donage (Wrong Agr Exception e) SOP (" Exception: + e. é getmenage ( father's age: 45 don's age: 20

**Q8.**Write a program to create a two threads one thread displays "BMS college of Engineering" once every ten seconds and another displays "CSE" once every two seconds.

```
class BMSthread implements Runnable{
    public void run(){
        while(true){
            try{
                System.out.println("BMS College of engineering");
                Thread.sleep(10000);
            catch(InterruptedException ie){
                System.out.println("Thread Interrupted");
class CSEthread implements Runnable{
    public void run(){
        while(true){
            try{
                System.out.println("CSE");
                Thread.sleep(2000);
            catch(InterruptedException ie){
                System.out.println("Thread Interrupted");
class display{
    public static void main(String xx[]){
        thread bms=new thread(new BMSthread);
        thread cse=new thread(new CSEthread);
        bms.start();
        cse.start();
```

Write a program to create two threads one thread displays "Bons callege of Engineeri ng " once every ten seconds and another > class BMs thread implements Runnable ? public void Run () while (true) SOP ("BMSCE"); thread. xleep ("10000); catch (Interrupted Exaption ie) {
Sor("Bors + throad is interruppted");} Class (SE thorad implements Runnable public volt Run () estile True Top (" (se"); -thread seleep (2000); catch (Interuppted Exception ic) ?
Sop ("CSE thread is introppted"); public class display {
public satatic void main (string [] angs)}

Date\_\_\_\_\_ thread bris = new thread (new 8MSH) thread OSE - new thread (new CSE thin bms. extant (); (se. start (); DOTPUT BIMSCE CSE CSE Do horal CSE CSE CCENT BINICE! Lord - MA " ) (A) CSE CSE CSE CSE CSECOLD 2th 100 and x 3 lange budgeth a blove states silde

## <u>REPORT</u> –

ANT programs - Report  Detton drag java At opens a button game window with 3 x3 tiles with numbers and provides user with buttons for treat the provides user one clicked on steat, everyone and restort one clicked on steat, everyone click on two tiles and simultaneously click on the get succepted weser can click on whether the game again  Button list, java: It opens a Button list window with three bottons - yes, no undecided and has a equal text HELLO, once clicking on yes, the window with the type pressed yes, similarly on clicking undecided - yes pressed and on clicking undecided - yes pressed emdecided.  Button list, java: It opens Button list to window with there buttons - yes, no, and on clicking undecided - yes pressed emdecided.  Button list, java: It opens Button list to window with there buttons - yes, no, andecided.  Button list, java: It opens Button list to window appears with menage, you pressed evidence window appears with menage, you pressed yes and an ok Button, similarly on clicking undecided, you pressed evided in superate dialog box.	DivisionMain java - nt opens Divisor of Pertyro window with fields to enter 2 numbers and a botton REPOLT on licking which the two numbers and quattern will appear on the window after Result nt gives and intakes numbers in foot data type.  Divisor Maint Java - nt opens a Divisor of Interest window swimilar to last program. But the result provided will be integer numbers Arthe quotient in floot.  Textfield Dumo java - It opens a Tr label Dem window with fields for entering name and password on clicking enter after entering the rame of the text entered appears after Name dimilarly on clicking enter after the entering the personal. It appears not the entering the personal it appears after the entering the personal it appears in the name factor of reverse the input and displays it after entering it.
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