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Section : F

Batch : 3

Subject : Java.

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→ Quadratic Equation

i/p:-

```java
import java.util.Scanner;
class Quadratic
{
public static void main(String[] args)
{
Scanner input = new Scanner(System.in);
System.out.println("Enter the value of a:");
double a = input.nextDouble();
System.out.println("Enter the value of b:");
double b = input.nextDouble();
System.out.println("Enter the value of c:");
double c = input.nextDouble();
double d = (b*b) - (4*a*c);
if(d>0)
{
double r1 = (-b + Math.sqrt(d))/(2*a);
double r2 = (-b + Math.sqrt(d))/(2*a);
System.out.println("The roots are "+r1+"and"
+ r2);
}
else if(d==0.0)
{
double r1 = -b/(2*a);
```

```
          System out.println("The root is "+r1);
     }
     else
     {
     System.out.Println(" Roots are imaginary")
     }
   }
 }
```

o/p:-   Enter   a : 4
         Enter   b : 54
         Enter   c : 56
         The roots are: -1.13194, and -12.36805

→ Grocery

```
class Grocery
  {
    int dal;
    int pulse;
    int sugar;
    Grocery ()
    {
    dal = 5,  Pulse = 6,  Sugar = 7
    }
    void total ()
    {
    System.out.Println(" total is + (dal × 150) + (Pulse
                                              + ( sugar
```

```
class Run
{
    public static void main (String[] args)
    {
        Grocery Gt = new Grocery()
        Gt.total();
    }
}
```

o/p :- 1s Total is 1580.

Snehe
22/12/23

→ Student

```java
import java.util.Scanner;

class student
{
  int n;
  String USN;
  String Name;
  double student[ ]= new double[n];
  double marks[ ] = new double[6];

void input()
{
  Scanner sc = new Scanner(System.in);
  System.out.println("Enter USN:");
  USN= sc.nextLine();
  System.out.println("Enter name:");
  Name = sc.nextLine();
  System.out.println("Enter marks:");
  for(int i=0; i<6; i++)
  {
    marks[i]= sc.nextInt();
  }
}
double percentage()
{
  double per, sum=0;
```

```java
        for (int i = 0; i < 6; i++)
        {
            sum = sum + marks[i];
        }
        per = (sum/6);
        System.out.println (sum);
        return per;
    }
}

class Run
{
    public static void main(string[] args)
    {
        int n;
        Scanner s = new Scanner(System.in);
        System.out.println ("Enter no of students");
        n = s.nextInt();
        for (int i = 0; i < 6; i++)
        {
            Student si = new Student();
            si.input();
            double x = s1.percentage();
            System.out.println("percentage : "+x);
        }
    }
}
```

Output:-
```
Enter no of students: 1
Enter USN:- 1BM22CS332
Enter Name: Karun
Enter marks: 98
    97
    98
    99
    98
    98
Percentage: 98.
```

→ BOOKS BOOK

```java
import java.util.Scanner;
class Books
{
    String name;
    String author;
    int price;
    int numpages;
    Boook () { }
    Books( String name, String author,
              int price, int numpages)
    {
        this.name = name;
        this.author = author;
        this.price = price;
        this.numpages = numpages;
    }
```

```java
public String to string()
{
    string name, author, price, num pages;
    name = "Book name " + this name + "\n";
    author = "Author name: "+ this.author +"\n";
    price = "price: "+ this.price +"\n";
    numpages = "No. of pages: "+ this num pages +"\n";
    return name + author + price + numpages;
    }
}

class Main
{
    public static void main (string args[])
    {
        Scanner s = new Scanner (system.in);
        int n;
        string name;
        string author;
        int price;
        int numpages;
        system.out.print ("Enter no of books:");
        n = s.nextInt();
        Books b[];
        b = new boook[n];
```

```
for (int i=0; i<n; i++)
{
    system.out.print ("BOOK" + (i +1) +"i ");
    system.out.print (" Enter name of books:");
    name = s.next();
    system.out.print (" Enter Author:");
    author= s.next();
    system.out.print (" Enter price:");
    price = s.nextInt();
    system.out.print (" Enter no of pages:");
    num pages.= s.nextInt();
        b[i]= new Books ( name, author, price
                                numpages);

    for (int i=0; i<n; i++)
    {
        system.out.print (" Book"+ i+1+" ;\n"+b[i]
    }

}
}
```

output:-

Enter no of books:2
Book1.
    enter the name of book: ATBP.
    Enter the author: Linac.
    Enter the price : 400
    Enter no of pages : 250.

BOOK 2
Enter name of book: LBAW
Enter author: Maxmug
Enter price: 450
Enter no of pages: 350.

BOOK 1

Book name: ATBP
author: Linae
price: 400
pages: 500

BOOK 2

Book name: LBAW
author: MaxMu
price: 450
pages: 350

→ **Area**

```
import java.util.Scanner;

Class Input
{
    Scanner s = new Scanner(System.in);
}

abstract class shape extends Input {
        double x, y;
        void display() { }
}

Class Rectangle Extends shape {
        double Rectangle() {
            S.O.P {" Enter length & breadth ");
            double x = s.nextdouble();
            double y = s.nextdouble();
            return x * y;
        }
}

class Triangle Extends shape {
        double Triangle() {
            S.O.P (" Enter height & base:");
            double h = s.nextdouble();
            double b = s.nextdouble();
            return 0.5 * b * h
        }
}
```

```java
class Circle Extends Shape
{
    y double circle()
    {
        S.O.p (" Enter radius:");
        r= next.double();
    y return  3.14* r*r;
    }
    y
}

class Run
{
    PSVM (String[] args)
    {
        Rectangle r1 = new Rectangle();
        Triangle t1 = new triangle();
        Circle c1 = new circle();

        double re = r1.Rectangle();
        S.O.p (" Area is " + re);

        double tr = t1. Triangle();
        S.O.p (" Area is " + tr);

        double ci = c1. circle();
        S.O.p (" Area is " + ci);

    } }
```

output:-
```
Enter length and breadth: 12  13
156
Enter height & base : 5  6
15
Enter radius : 4

    50.24
```

→ Bank.

```java
Public class Account {
    String cName;
    int accNo;
    double balance;
    Public Account (String cName, int accNo,
                    String accType, double balance)
    {
        this cName = cName;
        this accNo = accNo;
        this balance = balance;
    }
    void deposit (double amt)
    {
        balance += amt;
        S.O.P (" updated balance :"+ balance);
    }
```

```java
void balance()
{
    S.O.P("Account balance :"+balance);
}
void withdraw(double amt)
{
    if(balance >= amt)
    {
        balance -= amt;
        S.O.P(balance);
    }
    else
    { S.O.P("Insufficient funds");
    }
}
}
class CurAcc extends Account{
    private double minBal=1000
    private double sercharge=100;

    public curAcct()
    {
        super(cName, accno, acctype: "Current";
                            balance);
    }

    public void checkMinBal()
    {
        if(balance < minbal)
        {
            balance -= sercharge;
            S.O.P(balance);
        }
    }
```

```
        else
            S.O.P (Balance);
        }
    }
}

class Sav Acct extends Account;
{
    double rate = 5;
    Sav Acct ( )
    {
        super (c accno, "savings", balance);
    }

    void deposit Interest ( ){
        double Interes = balance * (rat/100);
        balance += Interesr;
        S.O.P (balance);
    }
}

class Main{
    PSVM (String [ ] args)
    {
        Sav Acct SA = new SavAcct ("v", 123, 10000)
        cur Acct CA = new curAcct ("s", 143, 20000)
        SA. deposit (500);
        SA. balance ( );
        SA. deposit Interst();
        SA. with draw (500);
    }
}
```

CA. deposit (1000):
CA. balance ():
CA. withdraw(1500):
CA. Check Min Bal():
CA. withdraw(100):
CA. Check Min Bal():

}

3

output

updated balance : 500.00
Account balance : 500.0
525.0.
325.0.
updated balance : 1000.0
Account Balance : 1000.
Insufficient funds.
Balance above min balance.
withdrawl completed updated balance : 900.
Servi charge imposed. balance : 800.

19/1/24

Lab 5

→ Packages Threads

```
class Mthread extends thread
        string m;
        int i;
        M thread ( string m, int i)
        {
            m = m1;
            i = i1;
        }
        Public void run() {
            try {
                while (true) {
                    System.out.print ln (message);
                    Thread.sleep (interval);
                }
            catch (interrupted Exception e)
                {
                e. printstack Trace();
                }
            }
        }
class threadrun {
        Public static void main (string [] args) {
            Mthread t1 = new Mthread ("BMS", 1000);
            Mthread t2 = new Mthread (" CSE", 2000);
            t1.start();
```

```
t2. start ();
    }
}
```

output:
```
BMS
CSE
CSE
CSE
CSE
CSE
BMS
```

Exceptions

```
class WrongAge extends Exception {
        WrongAge (String s);
                super (s);
        }
}

class Father {
        int age;
        Father (int age) throws wrongAge {
            if (age < 0)
                    throw new wrongAge
                            (" Age is less ");

            this.age = age;
        }
}
```

```java
class son extends Father {
    int sage;

    son (int fage, int sage) throws wrong Age {
        super (fage);
        this.sage = sage;
        if (s.age > fage) {
            throw new wrongAge ("son's age
                                mon
        if (sage < 0)
            throw new wrongage ("age is
                                than
    }
}
public class Ex ran {
    public static void main (string [] ags) {
        try {
            Father f = new father (50
            son s = new son (50, 6).
            S.o.p (" Father: " + fage + " son "
        }
        catch (wrong age e) {
            S.o.p (e):
        }
    }
}
```

O/P:-

o/p:-

wrong age: Age is less than 0.

if son age: 70

wrong age: son age is more.

→ **Packages**

CIE Package

```
package CIE;
public class personal {
        String Usn;
        string name;
        int sem;

    public personal (String Usn, String n, int s)

        Usn=U;
        & name=n;
        Sem s;

    }
}

import java.util.Arrays;
public class Internals{
        public int [] internal Marks;
        Pub this. internalMarks = internal marks.
    }

package SEE;
import CIE personal.
```

```java
Public class External extents personal {
        Public int [] See Marks.

    public External (String USN, String name, int
                            sem, int [] see marks).

        super( USN, name, sem):
        this. SeeMarks = See Marks:
    }
}

Package Main:

    import    Java. util. Arrays:
    import    CIE. Internals:
    import    SEE. personal:

public class Main {
        public static void Main (String [] args)
        {
            int n=3;
            student [] students = new student[n]
            for (int i=0; i<n; i++)
            {
                int [] internal Marks = {80,75,90,85,95}
                int [] See Marks = {70,80,85,85}
                students [i] = new student (new
                            personal ("USN", "student"
                            +i, i), new
                            internals (internalmark))
```

```java
        students [i].sec = new external ("usn"+
                                student "+ i =deem
        }
    for (int i=0; i< student.length; i++)
        { student student 1= student+ [i];
          system.out.Print (" student" + student)
                                name + " internals"
                                Array to string (
                                student1. internals
                                -nals marks) + " se
                                + Array to string (
                                student1. sec. seems
                    }
        }
    static class student {
        public class personal personal;
        public internals internals;
        public external set;

        public student ( personal P1, internal
                    personal=P1;
                    internal = 1;
```

output:
    student: student o.)
    Internal: (80, 75, 90, 85, 95)
    sem : (70, 80, 75) 90,85)

Student : Student 1.

Internal : [80, 75, 90, 84, 96)

SEE   : [70, 90, 85, 84, 98]

Sneha
24/5/15

→ AWT

```
import java.awt*;

Public class ANTEx Extends windowAdapter{
    Frame f;
    ANTEA ()
    {
        f = new Frame();
        f.addwindowlistner (this);
        Label l = new Label ("Employee id:");
        Button b = new Button ("Submit");
        Text field r = new TextField ();

        l. setBounds (20, 80, 80, 30);
        t. setBounds (20, 100, 80, 30);
        b. set Bounds (100, 100, 80, 30);

        f. add (b);
        f. add (l);
        f. add (t);

        f. setSize (400, 300);
        f. set file ("Employee info");

        f. set layout (null);
        f. set visible (tree);
    }

    Public void window closing (window Event
    {
        System. exit(0);
    }
```

```java
public static void main (String [] args)
{
    AWTEx awt obj = new AWTEx();
}
}
```

→ create a button and add action listener for mouse click.

```java
import java.awt.*;
import java.awt.event.*;

public class EventHandling extends windowsAdapter
    implements ActionListener {

        Frame f;
        TextField tf;
        EventHandling() {
            f = new Frame();
            f.add window Listener (this);
            tf = new TextField();
            tf.setBounds (60,50,170,20);
            Button b = new Button ("click me");
            b.setBounds (100, 120, 80,30);
            b.add Action Listener (this);
            f.add (b);
            f.add (tf);
            f.setSize(300,300);
            f.setLayout (null);
            f.setVisible (true);
```

```java
Public void actionPerformed (ActionEvent e)
{
    tf.setText("welcome");
}
Public static void main (String args[])
{
    new EventHandling();
}
}
```

EX 1

```java
import java.io.*;
Public class ByteArrayInput {
    Public static void main (String[] args)
                        throws IOException {
        byte[] buf = {35, 36, 37, 38};
        ByteArrayInputStream byt = new
                        ByteArrayInputStream (buf);
        int k=0;
        while ((k= byt.read()) != -1)
        {
            char Un = (char) k;
            System.out.print("ASCII value is:"
                        "special characte"%ch)
        }
    }
}
```

Ex 2

```java
import
public class fileEx {
    public static void main (String a[]) throws
                    IO Exception {

        FileInputStream fin= new FileInputStream
                    ("Example. txt");

        int content;
        System out.println("Remaining bytes "+
                        fin.available());

        content = fin.read();
        System out.print ((char) content +" ");
        System out.print (content +" ");
        System out.print ("Remaining byte "+
                        fin available());
        System out.print ("Remaining bytes "+ fin.
                        available());
```

o/p: ASCII value of character is 35
        Special character is *
       ASCII value of character 36
       Special character is $.
       ASCII value of character is 37
       Special character is %.
       ASCII value of character is 38.
       Special character is ^.

o/p: Hello world!
       Remaining bytes: 11
       Hello world!
       Remaining bytes: 0.

```
→ import java.io.FileInputstream;
  import java.io.IOException;

  public class FileEx2 {
    public static void main (String a[])
                  throws IOException {

      FileInputstream fin = new FileInputstream
                                     ("Example.txt");

      byte [] bytes = new byte [20];
      int i;
      char c;
      i = fin.read(bytes);
      System.out.print ("No. of bytes : "+i);
      System.out.print ("Bytes read : ");

      for (byte b: bytes)
      {
          c = (char) b;
          System.out.print(c);
      }
    }
  }

O/P:- No. of bytes : 1.
      Bytes read : A.
```

EX 2

```java
import java.io.*;
public class ByteArray_ex {
    public static void main (String args[]) throws
                Exception {
        FileOutputStream fout1 = new FileOutputStream
                                        ("Example.txt");
        FileOutputStream fout2 = new FileOutputStream
                                        ("Example2.txt");

        ByteArrayOutputStream bout = new ByteArray
                                        OutputStream();

        bout.write(65);
        bout.writeTo(fout1);
        bout.writeTo(fout2);

        bout.flush();
        bout.close();
        System.out.println("Success....");
    }
}
```

y

y.

o/p:- Success

23/2/24