Java Practicals soloution

**Slip1**

[October 31, 2023](https://nilambariblogfortybsc-cs.blogspot.com/2023/10/slip1.html)

 Q1.  Write a Program to print all Prime numbers in an array of ‘n’ elements. (use command line arguments)

import java.util.Scanner;

public class Slip1\_1

{

    public static void main (String[] args)

    {

            int n=Integer.parseInt(args[0]);

            boolean[] isPrime=new boolean[n];

            int[] ar = new int [n];

            Scanner in = new Scanner (System.in);

            System.out.println("Enter the "+n+" elements of the array: ");

            for(int i=0; i<n; i++)

                ar[i] = in.nextInt();

            for(int i=0; i<ar.length; i++)

             isPrime[i] = true;

            for(int k=0;k<n;k++)

            {

                for (int j=2; j<ar[k]; j++)

                if(ar[k]%j==0)

        {

                isPrime[k] = false;

                break;

            }

    }

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

if(isPrime[k])

            System.out.print(ar[k]+" ");

 System.out.print(" are the prime numbers from the array ");

}

}

Q2. Define an abstract class Staff with protected members id and name. Define a parameterized constructor. Define one subclass OfficeStaff with member department. Create n objects of OfficeStaff and display all details.

import java.io.\*;

abstract class Staff

{

        protected int id;

protected String name;

        Staff(int i,String n)

        {

                id=i;

name=n;

        }

        public void display()

{

System.out.print("Id: "+id+" Name : "+name);

}

}

class Office\_Staff extends Staff

{

        String dept,dept\_loc;

Office\_Staff(int id,String n,String d)

        {

                super(id, n);

                dept=d;;

        }

        public void display()

        {

super.display();

                System.out.println(" Dept : "+dept);

        }

}

class Ass3SetA\_2

{

        public static void main(String args[]) throws IOException

        {

                BufferedReader br = new BufferedReader(new InputStreamReader(System.in));

                System.out.println("Enter Total No. of Staff");

                int n=Integer.parseInt(br.readLine());

Office\_Staff[] st=new Office\_Staff[n];

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

{

   System.out.println("\*\*\*\*\*\*\*\*Enter Information of Staff No : "+(i+1)+"\*\*\*\*\*\*\*\*\*");

   System.out.println("Enter Id");

   int id=Integer.parseInt(br.readLine());

   System.out.println("Enter Name");

   String na=br.readLine();

   System.out.println("Enter Department");

   String dept=br.readLine();

   st[i]=new Office\_Staff(id,na,dept);

}

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

   st[i].display();

        }}

**Slip2**

[October 31, 2023](https://nilambariblogfortybsc-cs.blogspot.com/2023/10/slip2.html)

 Q1) Write a program to read the First Name and Last Name of a person, his weight and height using command line arguments. Calculate the BMI Index which is defined as the individual's body mass divided by the square of their height. (Hint : BMI = Wts. In kgs / (ht)2)

import java.util.Scanner;

public class Slip2\_1

{

    public static void main(String[] args)

    {

        double wt, ht;

String fname,lname;

fname=args[0];

lname=args[1];

wt=Double.parseDouble(args[2]);

ht=Double.parseDouble(args[3]);

double bmi=wt/(ht\*ht);

        System.out.println("Person Name : "+fname+" "+lname);

        System.out.println("BMI : "+bmi);

    }

}

 Q2) Define a class CricketPlayer (name,no\_of\_innings,no\_of\_times\_notout, totatruns, bat\_avg). Create an array of n player objects .Calculate the batting average for each player using static method avg(). Define a static sort method which sorts the array on the basis of average. Display the player details in sorted order.

import java.io.\*;

class CricketPlayer

{

String Name;

int no\_of\_ings;

int no\_of\_notout;

int total\_runs;

float bat\_avg;

public CricketPlayer()

{

Name="";

no\_of\_ings=0;

no\_of\_notout=0;

total\_runs=0;

bat\_avg=0.0f;

}

public CricketPlayer(String n,int i,int o,int r)

{

Name=n;

no\_of\_ings=i;

                no\_of\_notout=o;

         total\_runs=r;

        }

public static void average(CricketPlayer c[])

{

int n=c.length;

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

c[i].bat\_avg=(float)c[i].total\_runs/c[i].no\_of\_ings;

}

     public  static void sortPlayer(CricketPlayer c[])

{

int n=c.length;

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

{

for(int j=i+1;j<n;j++)

{

if(c[i].bat\_avg < c[j].bat\_avg)

      {

String temp=c[i].Name;

int t=c[i].no\_of\_ings;

int e=c[i].no\_of\_notout;

int p=c[i].total\_runs;

float m=c[i].bat\_avg;

c[i].Name=c[j].Name;

                c[i].no\_of\_ings=c[j].no\_of\_ings;

                c[i].no\_of\_notout=c[j].no\_of\_notout;

                c[i].total\_runs=c[j].total\_runs;

                c[i].bat\_avg=c[j].bat\_avg;

 c[j].Name=temp;

                                c[j].no\_of\_ings=t;

                                c[j].no\_of\_notout=e;

                                c[j].total\_runs=p;

                                c[j].bat\_avg=m;

    }

}

}

}

void print()

{

System.out.println("Name="+Name);

System.out.println("No\_Of\_Innings="+no\_of\_ings);

System.out.println("No\_times\_notout="+no\_of\_notout);

System.out.println("Total Runs="+total\_runs);

System.out.println("Average="+bat\_avg);

System.out.println("-----------------------------");

}

}

class  Ass2setB2

{

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

{

BufferedReader br=new BufferedReader(new InputStreamReader(System.in));

System.out.println("Enter how many players");

int n=Integer.parseInt(br.readLine());

CricketPlayer cp[]= new CricketPlayer[n];

System.out.println("Enter players");

 for(int i=0;i<n;i++)

 {

System.out.println("Enter name,innings,notout,total runs");

String na=br.readLine();

int g=Integer.parseInt(br.readLine());

int o=Integer.parseInt(br.readLine());

int t=Integer.parseInt(br.readLine());

cp[i]=new CricketPlayer(na,g,o,t);

}

CricketPlayer.average(cp);

CricketPlayer.sortPlayer(cp);

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

cp[i].print();

}

}

**Slip3**

[October 31, 2023](https://nilambariblogfortybsc-cs.blogspot.com/2023/10/slip3.html)

Q1 ) Write a program to accept ‘n’ name of cities from the user and sort them in ascending order. [10 marks]

import java.util.Scanner;

public class Slip3\_1

{

    public static void main(String[] args)

    {

        int n;

        String temp;

        Scanner s = new Scanner(System.in);

        System.out.print("Enter number of names you want to enter:");

        n = s.nextInt();

        String names[] = new String[n];

        Scanner s1 = new Scanner(System.in);

        System.out.println("Enter all the names:");

        for(int i = 0; i < n; i++)

             names[i] = s1.nextLine();

        for (int i = 0; i < n; i++)

        {

            for (int j = i + 1; j < n; j++)

            {

                if (names[i].compareTo(names[j])>0)

                {

                    temp = names[i];

                    names[i] = names[j];

                    names[j] = temp;

                }

            }

        }

        System.out.println("Names in Sorted Order:");

        for (int i = 0; i < n ; i++)

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

    }

}

Q2) Define a class patient (patient\_name, patient\_age, patient\_oxy\_level,patient\_HRCT\_report). Create an object of patient. Handle appropriate exception while patient oxygen level less than 95% and HRCT scan report greater than 10, then throw user defined Exception “Patient is Covid Positive(+) and Need to Hospitalized” otherwise display its information.

import java.util.\*;

class CovidPositiveException extends Exception

{

public CovidPositiveException()

{

System.out.println("Patient is Covid Positive(+) and Need to Hospitalized");

}

}

class Patient

{

String name;

int age;

int oxylevel;

int HRCTreport;

Patient(String name, int age, int oxylevel, int HRCTreport)

{

this.name = name;

this.age = age;

this.oxylevel = oxylevel;

this.HRCTreport = HRCTreport;

}

public static void main(String[] args)

{

Scanner sc = new Scanner(System.in);

System.out.println("How many patient you want insert:");

int n = sc.nextInt();

Patient[] ob = new Patient[n];

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

{

System.out.println("Enter Name ");

String name = sc.next();

System.out.println("Enter Age ");

int age = sc.nextInt();

System.out.println("Enter oxygen level");

int oxylevel = sc.nextInt();

System.out.println("Enter HRCT report");

int HRCTreport = sc.nextInt();

ob[j] = new Patient(name, age, oxylevel, HRCTreport);

}

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

{

if(ob[j].oxylevel < 95 && ob[j].HRCTreport > 10)

{

try

{

throw new CovidPositiveException();

}

catch(CovidPositiveException e)

{

}

}

else

{

System.out.println("name: "+ob[j].name);

System.out.println("age " + ob[j].age);

System.out.println("oxygen level " +ob[j].oxylevel);

System.out.println("HRCT report " + ob[j].HRCTreport);

System.out.println("\n");

}

}//for

}

}

**Slip4**

[October 31, 2023](https://nilambariblogfortybsc-cs.blogspot.com/2023/10/slip4.html)

  Q1) Write a program to print an array after changing the rows and columns of a given two-dimensional array. [10 marks]

import java.util.Scanner;

public class Slip4\_1{

public static void main(String[] args)

{

int[][] twodm = {

{10, 20, 30},

{40, 50, 60}

};

System.out.print("Original Array:\n");

print\_array(twodm);

int[][] newtwodm = new int[twodm[0].length][twodm.length];

for (int i = 0; i < twodm.length; i++)

for (int j = 0; j < twodm[0].length; j++)

newtwodm[j][i] = twodm[i][j];

System.out.println("After changing the rows and columns of the said array:");

print\_array(newtwodm);

}

static void print\_array(int[][] twodm)

{

for (int i = 0; i < twodm.length; i++)

{

for (int j = 0; j < twodm[0].length; j++)

{

System.out.print(twodm[i][j] + " ");

}

System.out.println();

}

}

}

 Q2) Write a program to design a screen using Awt that will take a user name and password. If the user name and password are not same, raise an Exception with appropriate message. User can have 3 login chances only. Use clear button to clear the TextFields.

import java.awt.\*;

import java.awt.event.\*;

import javax.swing.\*;

class InvalidPasswordException extends Exception

{}

class A5SetB2 extends JFrame implements ActionListener

{

    JLabel name, pass;

    JTextField nameText;

    JPasswordField passText;

    JButton login, end;

    static int cnt=0;

        A5SetB2()

    {

         name = new JLabel("Name : ");

         pass = new JLabel("Password : ");

         nameText = new JTextField(20);

         passText = new JPasswordField(20);

         login = new JButton("Login");

         end = new JButton("End");

         login.addActionListener(this);

          end.addActionListener(this);

                    setLayout(new GridLayout(3,2));

          add(name);

          add(nameText);

          add(pass);

          add(passText);

          add(login);

          add(end);

          setTitle("Login Check");

          setSize(300,300);

                                    setDefaultCloseOperation(JFrame.EXIT\_ON\_CLOSE);

          setVisible(true);

     }

     public void actionPerformed(ActionEvent e)

     {

               if(e.getSource()==end)

          {

                        System.exit(0);

          }

          if(e.getSource()==login)

          {

             try

             {

                 String user = nameText.getText();

                 String pass = new  String(passText.getPassword());

                                   if(user.compareTo(pass)==0)

{

JOptionPane.showMessageDialog(null,"Login Successful","Login",JOptionPane.INFORMATION\_MESSAGE);

                     System.exit(0);

                  }

                  else

                  {

                      throw new InvalidPasswordException();

                  }

                }

                catch(Exception e1)

                {

                    cnt++;

                    JOptionPane.showMessageDialog(null,"Login Failed","Login",JOptionPane.ERROR\_MESSAGE);

                     nameText.setText("");

                     passText.setText("");

                     nameText.requestFocus();

                     if(cnt == 3)

                    {

           JOptionPane.showMessageDialog(null,"3 Attempts Over","Login",JOptionPane.ERROR\_MESSAGE);

                        System.exit(0);

                                                             }

                }

         }

   }

  public static void main(String args[])

 {

                new A5SetB2();

 }

}

**Slip 5**

[October 31, 2023](https://nilambariblogfortybsc-cs.blogspot.com/2023/10/slip-5.html)

 Q1) Write a program for multilevel inheritance such that Country is inherited from Continent. State is inherited from Country. Display the place, State, Country and Continent. [10 marks]

import java.io.\*;

class Continent

{

   String con;

  BufferedReader r  = new BufferedReader(new InputStreamReader(System.in));

 void con\_input() throws IOException

 {

       System.out.println("Enter Continent Name:  ");

       con = r.readLine();

 }

}

class Country extends Continent

{

 String cou ;

 void cou\_input() throws IOException

 {

       System.out.println("Enter Country Name:  ");

       cou = r.readLine();

 }

}

class State extends Country

{

 String sta,place;

 void sta\_input() throws IOException

 {

       System.out.println("Enter State Name:  ");

       sta = r.readLine();

System.out.println("Enter place Name:  ");

       place = r.readLine();

 }

 public static void main( String argsp[] )throws IOException

 {

   State s = new State();

s.con\_input();

   s.cou\_input();

   s.sta\_input();

    System.out.println("Continent: "+s.con);

   System.out.println("Country: "+s.cou);

   System.out.println("State: "+s.sta);

System.out.println("Place: "+s.place);

 }

}

 Q2) Write a menu driven program to perform the following operations on multidimensional array ie matrices : 1. Addition 2.Multiplication 3.Exit

import java.util.Arrays;

import java.util.Scanner;

public class Slip5\_2

{

  public static void main(String[] args)

  {

    Scanner scan = new Scanner(System.in);

    int a[][] = { { 5, 6, 7 }, { 8, 9, 10 }, { 3, 1, 2 } };

    int b[][] = { { 1, 2, 3 }, { 4, 5, 6 }, { 7, 8, 9 } };

    int c[][] = new int[3][3];

    System.out.println("A = " + Arrays.deepToString(a));

    System.out.println("B = " + Arrays.deepToString(b));

    int choice;

    do

  {

      System.out.println("\nChoose the matrix operation,");

      System.out.println("----------------------------");

      System.out.println("1. Addition");

      System.out.println("2. Multiplication");

System.out.println("3. Exit");

      System.out.print("Enter your choice: ");

      choice = scan.nextInt();

      switch (choice) {

      case 1:

        c = add(a, b);

        System.out.println("Sum of matrix: ");

        System.out.println(Arrays.deepToString(c));

        break;

      case 2:

        c = multiply(a, b);

        System.out.println("Multiplication of matrix: ");

        System.out.println(Arrays.deepToString(c));

        break;

      }

    } while (choice!=3);

  }

  public static int[][] add(int[][] a, int[][] b)

  {

    int row = a.length;

    int column = a[0].length;

    int sum[][] = new int[row][column];

    for (int i = 0; i < row; i++)

    {

      for (int j = 0; j < column; j++)

      {

        sum[i][j] = a[i][j] + b[i][j];

      }

    }

    return sum;

  }

 public static int[][] multiply(int[][] a, int[][] b)

  {

    int row = a.length;

    int column = b[0].length;

    int product[][] = new int[row][column];

    for (int i = 0; i < row; i++)

    {

      for (int j = 0; j < column; j++)

       {

        product[i][j] = 0;

        for (int k = 0; k < a[0].length; k++)

        {

          product[i][j] += a[i][k] \* b[k][j];

        }

      }

    }

    return product;

  }

 }

**Slip6**

[October 31, 2023](https://nilambariblogfortybsc-cs.blogspot.com/2023/10/slip6.html)

 Q1) Write a program to display the Employee(Empid, Empname, Empdesignation, Empsal) information using toString(). [10 marks]

class Employee

{

 int Empid,Empsal;

 String Empname,Empdesg;

  Employee(int Empid,String Empname,String Empdesg,int Empsal){

 this.Empid=Empid;

 this.Empname=Empname;

 this.Empdesg=Empdesg;

  this.Empsal=Empsal;

 }

 public String toString()

{

 return Empid+"\t "+Empname+"\t "+Empdesg+"\t "+Empsal;

  }

}

class Slip6\_1

{

public static void main(String args[])

{

   Employee s1=new Employee(101,"abc","Manager",20000);

   Employee s2=new Employee(102,"def","Fitter",12000);

    System.out.println("Roll No   Name  Designation Salary");

   System.out.println(s1);

   System.out.println(s2);

}  }

Q2) Create an abstract class “order” having members id, description. Create two subclasses “Purchase Order” and “Sales Order” having members customer name and Vendor name respectively. Define methods accept and display in all cases. Create 3 objects each of Purchase Order and Sales Order and accept and display details.

//Slip6\_2

import java.io.\*;

abstract class order

{

        protected int id;

protected String desc;

        order(int i,String d)

        {

                id=i;

desc=d;

        }

        public void display()

{

System.out.print("Id: "+id+" Description: "+desc);

}

}

class Purchase\_Order extends order

{

        String c\_name,v\_name;

Purchase\_Order(int id,String desc,String c, String v)

        {

                super(id, desc);

c\_name=c;

v\_name=v;

        }

        public void display()

        {

super.display();

 System.out.println(" Customer Name : "+c\_name+" Vendor Name :"+v\_name);

        }

}

class Sales\_Order extends order

{

        String c\_name,v\_name;

Sales\_Order(int id,String desc,String c, String v)

        {

                super(id, desc);

c\_name=c;

v\_name=v;

        }

        public void display()

        {

super.display();

                System.out.println(" Customer Name : "+c\_name+" Vendor Name :"+v\_name);

        }

}

class Ass3SetB\_1

{

        public static void main(String args[]) throws IOException

        {

                BufferedReader br = new BufferedReader(new InputStreamReader(System.in));

                Purchase\_Order[] po=new Purchase\_Order[3];

Sales\_Order[] so=new Sales\_Order[3];

System.out.println("\nEnter Purchase Order Details");

                for(int i=0;i<3;i++)

{

    System.out.println("Enter Id");

    int id=Integer.parseInt(br.readLine());

    System.out.println("Enter Description");

    String na=br.readLine();

    System.out.println("Enter Customer Name");

    String ca=br.readLine();

System.out.println("Enter Vendor Name");

    String va=br.readLine();

    po[i]=new Purchase\_Order(id,na,ca,va);

}

System.out.println("\nEnter Sales Order Details");

                for(int i=0;i<3;i++)

{

    System.out.println("Enter Id");

    int id=Integer.parseInt(br.readLine());

    System.out.println("Enter Description");

    String na=br.readLine();

    System.out.println("Enter Customer Name");

    String ca=br.readLine();

System.out.println("Enter Vendor Name");

    String va=br.readLine();

    so[i]=new Sales\_Order(id,na,ca,va);

}

System.out.println("\nPurchase Order Details");

for(int i=0;i<3;i++)

    po[i].display();

System.out.println("\nSales Order Details");

for(int i=0;i<3;i++)

            so[i].display();

        }

}

**Slip 7**

[October 31, 2023](https://nilambariblogfortybsc-cs.blogspot.com/2023/10/slip-7.html)

 Q1) Design a class for Bank. Bank Class should support following operations; a. Deposit a certain amount into an account b. Withdraw a certain amount from an account c. Return a Balance value specifying the amount with details [10 marks]

import java.io.\*;

class Bank

{

    int acno;

    String name;

    double balance;

    public Bank(int ano,String n,double b)

    {

        acno=ano;

name=n;

balance=b;

    }

   public void viewBalance()

   {

System.out.println("Account Number : " +acno );

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

       System.out.println("The balance is: " + balance);

   }

   public void deposit(double amount)

   {

       balance += amount;

   }

   public void withdraw(double amount)

   {

balance-=amount;

   }

}

class Slip7\_1

{

public static void main(String args[]) throws IOException

{

Bank s=new Bank(1,"abc",500);

BufferedReader br = new BufferedReader(new InputStreamReader(System.in));

int ch;

do

{

System.out.println("Enter \n1.View Balance\n2.Withdraw\n3.Deposit\n4.Exit");

ch=Integer.parseInt(br.readLine());

   switch(ch)

   {

case 1:s.viewBalance();break;

case 2:System.out.println("Enter Amount to Withdraw");

double amt=Double.parseDouble(br.readLine());

s.withdraw(amt);

break;

case 3:System.out.println("Enter Amount to Deposit");

double amt1=Double.parseDouble(br.readLine());

s.deposit(amt1);

break;

    }

}while(ch!=4);

}

}

 Q2) Write a program to accept a text file from user and display the contents of a file in reverse order and change its case.

// Demonstrate FileReader.

import java.io.\*;

class ReverseFile

{

public static void main(String args[]) throws Exception

{

FileReader fr = new FileReader("Sample.txt");

BufferedReader br = new BufferedReader(fr);

String s,s1="";

while((s = br.readLine()) != null)

{

s1+=s+"\n";

}

System.out.println("\*\*\*\*\*\*\*\*File content in reverse order\*\*\*\*\*\*\*\*");

StringBuffer sb=new StringBuffer(s1);

System.out.println(sb.reverse());

System.out.println("\*\*\*\*\*\*\*\*File content in Upper case\*\*\*\*\*\*\*\*");

System.out.println(s1.toUpperCase());

fr.close();

}

}

**Slip 8**

[October 31, 2023](https://nilambariblogfortybsc-cs.blogspot.com/2023/10/slip-8.html)

 Q1) Create a class Sphere, to calculate the volume and surface area of sphere. (Hint : Surface area=4\*3.14(r\*r), Volume=(4/3)3.14(r\*r\*r))

import java.util.\*;

public class sphere\_Slip8\_1

{

        public static void main(String args[])

     {

     int radius;

     //double pie=3.14285714286;

Scanner s=new Scanner(System.in);

System.out.println("Enter the Radious");

radius=s.nextInt();

double area=4\*(Math.PI)\*radius\*radius;

  System.out.println("Area of the sphere="+area);

     double volume=(4.0/3.0)\*Math.PI\*(radius\*radius\*radius);

     System.out.println("Volume of the sphere="+volume);

     }

}

Q2) Design a screen to handle the Mouse Events such as MOUSE\_MOVED and MOUSE\_CLICKED and display the position of the Mouse\_Click in a TextField.

import java.awt.\*;

import java.awt.event.\*;

import javax.swing.\*;

public class Slip8\_2 implements MouseListener,MouseMotionListener

{

JTextField t1;

String msg="";

    Slip8\_2()

    {

        // Create and set up the window.

        JFrame frame = new JFrame("MouseListenerExample");

        // Display the window.

        frame.setLayout(new FlowLayout());

t1=new JTextField (30);

frame.addMouseListener(this);

frame.addMouseMotionListener(this);

frame.add(t1);

  frame.setSize(500,300);

        frame.setVisible(true);

        frame.setDefaultCloseOperation(JFrame.EXIT\_ON\_CLOSE);

    }

public void mouseClicked(MouseEvent me)

{

msg = "Mouse clicked at X = "+me.getX()+" Y = "+me.getY();

t1.setText(msg);

}

public void mouseEntered(MouseEvent me) {}

public void mouseExited(MouseEvent me) {}

// Handle button pressed.

public void mousePressed(MouseEvent me) {}

// Handle button released.

public void mouseReleased(MouseEvent me) {}

// Handle mouse dragged.

public void mouseDragged(MouseEvent me) {}

// Handle mouse moved.

public void mouseMoved(MouseEvent me)

 {

msg = "Mouse Moved at X = "+me.getX()+" Y = "+me.getY();

t1.setText(msg);

}

     public static void main(String[] args)

 {

    new Slip8\_2 ();

     }

}

**Slip9**

[November 01, 2023](https://nilambariblogfortybsc-cs.blogspot.com/2023/11/slip9.html)

 Q1) Define a “Clock” class that does the following ; a. Accept Hours, Minutes and Seconds b. Check the validity of numbers c. Set the time to AM/PM mode Use the necessary constructors and methods to do the above task [10 marks]

import java.util.\*;

class Clock {

   int hr,min,sec; //store hours

   public Clock (int hr, int min, int sec)

   {

       this.hr=hr;

this.min=min;

this.sec=sec;

   }

   public boolean checktime()

   {

boolean hflag,mflag,sflag;

       if (hr>=0 && hr < 24)

hflag=true;

        else

hflag=false;

if (min >=0 && min < 60)

          mflag=true;

        else

mflag=false;

       if (sec >=0 && sec < 60)

          sflag=true;

        else

sflag=false;

if(hflag&&mflag&&sflag)

return true;

else

return false;

   }

   public void setAMPM()

   {

      if(hr>=0 && hr<12)

System.out.println("Time  = "+hr+":"+min+":"+sec+" AM");

else

System.out.println("Time  = "+hr+":"+min+":"+sec+" PM");

   }

   }

public class Slip9\_1

{

        public static void main(String args[])

     {

     Scanner s=new Scanner(System.in);

System.out.println("Enter Hours, Minutes and Seconds");

int hh=s.nextInt();

int mm=s.nextInt();

int ss=s.nextInt();

Clock c=new Clock(hh,mm,ss);

if((c.checktime())==true)

c.setAMPM();

else

System.out.println("Invalid Time");

}

}

Q2) Write a program to using marker interface create a class Product (product\_id, product\_name, product\_cost, product\_quantity) default and parameterized constructor. Create objectsof class product and display the contents of each object and Also display the object count.

//slip9\_2

import java.util.Scanner;

interface productdetail

{

}

public class Product implements productdetail

{

static int cnt;

int pid,qty;

String pname;

double pcost;

public Product (int pid, String pname, double pcost, int qty)

{

cnt++;

this.pid = pid;

this.pname = pname;

this.pcost = pcost;

this.qty=qty;

}

public Product ()

{

cnt++;

this.pid = 0;

this.pname = "";

this.pcost = 0;

this.qty=0;

}

public String toString()

{

return pid+"\t"+pname+"\t"+pcost+"\t"+qty;

}

public static void main (String args[])

{

//reading values of the product from the user

Scanner sc = new Scanner(System.in);

System.out.println("Enter Total No. of Product");

                int n=sc.nextInt();

Product[] p=new Product [n];

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

{

    System.out.print("Enter product ID: ");

int pid = sc.nextInt();

System.out.print("Enter product name: ");

String pname = sc.next();

System.out.print("Enter product Cost: ");

double pcost = sc.nextDouble();

System.out.print("Enter product Quantity: ");

int q = sc.nextInt();

p[i]=new Product(pid, pname, pcost,q);

}

System.out.println("-------Product Detail--------");

System.out.println("Id Name Cost Quantity");

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

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

//invoking the method to print detail

System.out.println("Total no. of. Product objects = "+Product.cnt);

}

}

**Slip 10**

[November 02, 2023](https://nilambariblogfortybsc-cs.blogspot.com/2023/11/slip-10.html)

 Q1) Write a program to find the cube of given number using functional interface. [10 marks]

//@FunctionalInterface

interface PrintNumber

{

public void print(int num1);

}

public class Slip10\_1

{

public static void main(String[] a)

{

PrintNumber p = n -> System.out.println("Cube is: "+ n\*n\*n);

p.print(5);

}

}

Q2) Write a program to create a package name student. Define class StudentInfo with method to display information about student such as rollno, class, and percentage. Create another class StudentPer with method to find percentage of the student. Accept student details like rollno, name, class and marks of 6 subject from user. [20 marks]

//StudentInfo.java

package student;

public class StudentInfo

{

public void display\_student(int r,String n, String c,double p)

 {

   System.out.println ("Roll No. = "+r);

   System.out.println ("Name = "+n);

   System.out.println ("Class = "+c);

   System.out.println ("Percentage = "+p+"%");

 }

}

//StudentPer.java

package student;

public class StudentPer

{

public double calcper(int[] mar)

{

double per;

int sum=0;

for(int i=0;i<6;i++)

sum+=mar[i];

per=(double)sum/6;

return per;

}

}

//main program

import java.util.Scanner;

import student.\*;

class StudentData

{

public int roll,m[];

public String name,cname;

public double per;

public StudentData(int r,String n,String c,int m[])

{

roll=r;

name=n;

cname=c;

this.m=m;

}

}

class Slip10\_2

{

public static void main(String[] args)

{

int m[]=new int[6];

Scanner sc=new Scanner(System.in);

System.out.println ("Enter Roll No.");

int roll=sc.nextInt();

System.out.println ("Enter Name");

String name=sc.next();

System.out.println ("Enter class");

String c=sc.next();

System.out.println ("Enter marks of 6 subjects");

for(int i=0;i<6;i++)

m[i]=sc.nextInt();

StudentData sd=new StudentData(roll,name,c,m);

StudentPer sp=new StudentPer();

sd.per=sp.calcper(m);

StudentInfo si=new StudentInfo();

si.display\_student(sd.roll,sd.name,sd.cname,sd.per);

}

}

**Slip11**

[November 02, 2023](https://nilambariblogfortybsc-cs.blogspot.com/2023/11/slip11.html)

 Q1) Define an interface “Operation” which has method volume( ).Define a constant PI having a value 3.142 Create a class cylinder which implements this interface (members – radius,height). Create one object and calculate the volume. [10 marks]

//slip 11\_1

interface operation

{

       static double PI=3.14;

       double area();

       double volume();

}

class Cylinder implements operation

{

        int rad;

        int height;

        Cylinder(int rad,int height)

        {

                this.rad=rad;

                this.height=height;

        }

        public double  area()

        {

                System.out.print("\nArea of Cylinder:");

return 2\*PI\*rad\*height + 2\*PI\*Math.pow(rad,2);

        }

        public double volume()

        {

   System.out.print("\nVolume of Cylinder:");

  return PI\*Math.pow(rad,2)\*height;

        }

}

public class Ass3SetA3

{

        public static void main(String args[])

        {

                operation op = new Cylinder(3,4);

                System.out.println(op.area()+"........");

                System.out.println(op.volume()+"......");

        }

}

Q2) Write a program to accept the username and password from user if username and password are not same then raise "Invalid Password" with appropriate msg.

//Slip11\_2

import java.util.Scanner;

class InvalidIDPasswordException extends Exception

{

        InvalidIDPasswordException()

        {

           System.out.println("You Have entered Wrong Userid or Password");

        }

}

class InvalidEmailException extends Exception

{

        InvalidEmailException()

        {

           System.out.println("The given Email id is invalid ");

        }

}

public class EmailCheck

{

String UserName,password;

EmailCheck()

{

UserName=" ";

password=" ";

}

EmailCheck(String id,String pass)

{

UserName=id;

password=pass;

}

   public static void main(String args[])

   {

        try

{

Scanner sc = new Scanner(System.in);

  System.out.println("Enter your Email id");

  String uname = sc.next();

System.out.println("Password");

  String pass = sc.next();

EmailCheck u1=new EmailCheck(uname,pass);

          if(u1.UserName.indexOf("@")>0 && u1.UserName.indexOf(".")>0)

     System.out.println("You have entered Valid Email Id");

  else

throw new InvalidEmailException();

if((u1.UserName.equals("abc@gmail.com"))&& (u1.password.equals("123")))

System.out.println("Successful Login");

  else

throw new InvalidIDPasswordException();

}

catch(InvalidEmailException e){}

catch(InvalidIDPasswordException e){}

    }

}

**Slip12**

[November 02, 2023](https://nilambariblogfortybsc-cs.blogspot.com/2023/11/slip12.html)

 Q1) Write a program to create parent class College(cno, cname, caddr) and derived class Department(dno, dname) from College. Write a necessary methods to display College details. [10 marks]

import java.util.\*;

class College

{

   String cname, caddr;

   int cno;

   College(int cno, String cname, String caddr)

 {

       this.cno=cno;

this.cname=cname;

this.caddr=caddr;

 }

void display()

 {

       System.out.println("College No: "+cno+"\nCollege Name: "+cname+"\nCollege Address: "+caddr);

 }

}

class Department extends College

{

   String dname;

   int dno;

   Department(int cno, String cname, String caddr,int dno, String dname)

 {

       super(cno,cname,caddr);

this.dno=dno;

this.dname=dname;

 }

void display()

 {

super.display();

       System.out.println("Dept No: "+dno+"\nDepartment Name: "+dname);

 }

}

 class Slip12\_1

{

 public static void main( String args[] )

 {

   Scanner sc=new Scanner(System.in);

System.out.println("Enter College Number ");

int cno=sc.nextInt();

System.out.println("Enter College Name");

String cn=sc.next();

System.out.println("Enter College Address ");

String ca=sc.next();

System.out.println("Enter Department Number ");

int dno=sc.nextInt();

System.out.println("Enter Department  Name");

String dn=sc.next();

Department d=new Department(cno,cn,ca,dno,dn);

d.display();

 }

}

Q2) Write a java program that works as a simple calculator. Use a grid layout to arrange buttons for the digits and for the +, -, \*, % operations. Add a text field to display the result. Simple Calculator 1 2 3 + 4 5 6 - 7 8 9 \* 0 . = / [20 marks]

import javax.swing.\*;

import java.awt.event.\*;

import java.awt.\*;

class Calc extends JFrame implements ActionListener

{

    JTextField t;

    JButton b[]=new JButton[18];

    static double a=0,c=0,result=0;

    static int operator=0;

    Calc()

    {

        t=new JTextField(20);

        b[0]=new JButton("1");

        b[1]=new JButton("2");

        b[2]=new JButton("3");

        b[3]=new JButton("+");

        b[4]=new JButton("4");

        b[5]=new JButton("5");

        b[6]=new JButton("6");

        b[7]=new JButton("-");

        b[8]=new JButton("7");

        b[9]=new JButton("8");

        b[10]=new JButton("9");

        b[11]=new JButton("\*");

        b[12]=new JButton("0");

        b[13]=new JButton(".");

        b[14]=new JButton("=");

        b[15]=new JButton("/");

        b[16]=new JButton("Delete");

        b[17]=new JButton("Clear");

JPanel p=new JPanel();

        p.setLayout(new GridLayout(4,4,5,5));

for(int i=0;i<16;i++)

p.add(b[i]);

        setLayout(new FlowLayout());

add(t);add(p);add( b[16]);add( b[17]);

        setVisible(true);

   setTitle("Simple Calculator");

        setSize(250,300);

        setDefaultCloseOperation(JFrame.EXIT\_ON\_CLOSE);

        for(int i=0;i<18;i++)

        b[i].addActionListener(this);

    }

    public void actionPerformed(ActionEvent e)

    {

        if(e.getSource()==b[0])

            t.setText(t.getText().concat("1"));

        if(e.getSource()==b[1])

            t.setText(t.getText().concat("2"));

        if(e.getSource()==b[2])

            t.setText(t.getText().concat("3"));

        if(e.getSource()==b[4])

            t.setText(t.getText().concat("4"));

        if(e.getSource()==b[5])

            t.setText(t.getText().concat("5"));

        if(e.getSource()==b[6])

            t.setText(t.getText().concat("6"));

        if(e.getSource()==b[8])

            t.setText(t.getText().concat("7"));

        if(e.getSource()==b[9])

            t.setText(t.getText().concat("8"));

        if(e.getSource()==b[10])

            t.setText(t.getText().concat("9"));

        if(e.getSource()==b[12])

            t.setText(t.getText().concat("0"));

        if(e.getSource()==b[13])

            t.setText(t.getText().concat("."));

        if(e.getSource()==b[3])

        {

            a=Double.parseDouble(t.getText());

            operator=1;

            t.setText("");

        }

        if(e.getSource()==b[7])

        {

            a=Double.parseDouble(t.getText());

            operator=2;

            t.setText("");

        }

        if(e.getSource()==b[11])

        {

            a=Double.parseDouble(t.getText());

            operator=3;

            t.setText("");

        }

        if(e.getSource()==b[15])

        {

            a=Double.parseDouble(t.getText());

            operator=4;

            t.setText("");

        }

        if(e.getSource()==b[14])

        {

            c=Double.parseDouble(t.getText());

            switch(operator)

            {

                case 1: result=a+c;

                    break;

                case 2: result=a-c;

                    break;

                case 3: result=a\*c;

                    break;

                case 4: result=a/c;

                    break;

                default: result=0;

            }

     t.setText(""+result);

        }

        if(e.getSource()==b[17])

            t.setText("");

        if(e.getSource()==b[16])

        {

            String s=t.getText();

            t.setText("");

            for(int i=0;i<s.length()-1;i++)

            t.setText(t.getText()+s.charAt(i));

        }

    }

    public static void main(String...s)

    {

        new Calc();

    }

}

**Slip13**

[November 02, 2023](https://nilambariblogfortybsc-cs.blogspot.com/2023/11/slip13.html)

 Q1) Write a program to accept a file name from command prompt, if the file exits then display number of words and lines in that file. [10 marks]

import java.io.\*;

class Slip13\_1

{

public static void main(String args[]) throws IOException

{

String line,dirname=args[0];

int ch,i,cnt=0,lcnt=0;

File f1=new File(dirname);

if(f1.isFile() && f1.exists())

{

BufferedReader br = new BufferedReader(new FileReader(f1));

          while((line = br.readLine()) != null)

{

lcnt++;

             String words[] = line.split("");

                cnt = cnt + words.length;

}

}

System.out.println("Total Number Of Lines:"+lcnt);

System.out.println("Total Number Of Words:"+cnt);

}

}

Q2) Write a program to display the system date and time in various formats shown below: Current date is : 31/08/2021 Current date is : 08-31-2021 Current date is : Tuesday August 31 2021 Current date and time is : Fri August 31 15:25:59 IST 2021 Current date and time is : 31/08/21 15:25:59 PM +0530 [20 marks]

/\*

Letter  Date or Time Component  Presentation  Examples

G  Era designator  Text  AD

y  Year  Year  1996; 96

Y  Week year  Year  2009; 09

M  Month in year  Month  July; Jul; 07

w  Week in year  Number  27

W  Week in month  Number  2

D  Day in year  Number  189

d  Day in month  Number  10

F  Day of week in month  Number  2

E  Day name in week  Text  Tuesday; Tue

u  Day number of week (1 = Monday, ..., 7 = Sunday)  Number  1

a  Am/pm marker  Text  PM

H  Hour in day (0-23)  Number  0

k  Hour in day (1-24)  Number  24

K  Hour in am/pm (0-11)  Number  0

h  Hour in am/pm (1-12)  Number  12

m  Minute in hour  Number  30

s  Second in minute  Number  55

S  Millisecond  Number  978

z  Time zone  General time zone  Pacific Standard Time; PST; GMT-08:00

Z  Time zone  RFC 822 time zone  -0800

X  Time zone  ISO 8601 time zone  -08; -0800; -08:00

Date and Time Pattern  Result

"yyyy.MM.dd G 'at' HH:mm:ss z"  2001.07.04 AD at 12:08:56 PDT

"EEE, MMM d, ''yy"  Wed, Jul 4, '01

"h:mm a"  12:08 PM

"hh 'o''clock' a, zzzz"  12 o'clock PM, Pacific Daylight Time

"K:mm a, z"  0:08 PM, PDT

"yyyyy.MMMMM.dd GGG hh:mm aaa"  02001.July.04 AD 12:08 PM

"EEE, d MMM yyyy HH:mm:ss Z"  Wed, 4 Jul 2001 12:08:56 -0700

"yyMMddHHmmssZ"  010704120856-0700

"yyyy-MM-dd'T'HH:mm:ss.SSSZ"  2001-07-04T12:08:56.235-0700

"yyyy-MM-dd'T'HH:mm:ss.SSSXXX"  2001-07-04T12:08:56.235-07:00

"YYYY-'W'ww-u"  2001-W27-3

\*/

import java.text.SimpleDateFormat;

import java.util.Date;

public class DateFormatExample

{

    public static void main(String args[])

{

        // This is how to get today's date in Java

        Date today = new Date();

      SimpleDateFormat df = new SimpleDateFormat("dd/MM/yyyy");

       String date = df.format(today);

       System.out.println ("\nCurrent Date is : " + date);

  //Another Example of formatting Date in Java using SimpleDateFormat

        df = new SimpleDateFormat("MM-dd-yyyy");

        date = df.format(today);

        System.out.println("\nCurrent Date is : " + date);

     //formatting Date with time information

        df = new SimpleDateFormat("EEEEE d MMM yyyy");

        date = df.format(today);

        System.out.println("\nCurrent Date is : " + date);

 //If you print Date, you will get un formatted output

        System.out.println("\nCurrent Date and Time is: " + today);

        //formatting Date with time information

        df = new SimpleDateFormat("dd/MM/yy HH:mm:ss aaaZ");

        date = df.format(today);

        System.out.println("\nCurrent Date and Time is : " + date);

        //SimpleDateFormat example - Date with timezone information

        df = new SimpleDateFormat("HH:mm:SS");

        date = df.format(today);

        System.out.println("\nCurrent Time is : " + date);

     df = new SimpleDateFormat("w");

        date = df.format(today);

        System.out.println("\nCurrent week of year is : " + date);

df = new SimpleDateFormat("W");

        date = df.format(today);

        System.out.println("\nCurrent week of month : " + date);

df = new SimpleDateFormat("D");

        date = df.format(today);

        System.out.println("\nCurrent day of the year is : " + date);

df = new SimpleDateFormat("d");

        date = df.format(today);

        System.out.println("\nCurrent day of the month is : " + date);

    }

}

**Slip14**

[November 02, 2023](https://nilambariblogfortybsc-cs.blogspot.com/2023/11/slip14.html)

 Q1) Write a program to accept a number from the user, if number is zero then throw user defined exception “Number is 0” otherwise check whether no is prime or not (Use static keyword). [10 marks]

//Slip14\_1

import java.util.\*;

class NumberException extends Exception

{

   NumberException()

 {

       System.out.println("Number is 0");

 }

}

class Slip14\_1

{

 public static void main( String args[] )

 {

   Scanner sc=new Scanner(System.in);

System.out.println("Enter Number ");

int n=sc.nextInt();

try

{

if(n==0)

throw new NumberException();

else

{

 int i,m=0,flag=0;

    m=n/2;

   if(n==0||n==1)

    System.out.println(n+" is not prime number");

   else

{

    for(i=2;i<=m;i++)

{

     if(n%i==0)

{

      System.out.println(n+" is not prime number");

      flag=1;

      break;

     }

    }

}

    if(flag==0)

System.out.println(n+" is prime number");

}

}

catch(NumberException e){}

}

}

Q2) Write a Java program to create a Package “SY” which has a class SYMarks (members – ComputerTotal, MathsTotal, and ElectronicsTotal). Create another package TY which has a class TYMarks (members – Theory, Practicals). Create ‘n’ objects of Student class (having rollNumber, name, SYMarks and TYMarks). Add the marks of SY and TY computer subjects and calculate the Grade (‘A’ for >= 70, ‘B’ for >= 60 ‘C’ for >= 50, Pass Class for > =40 else‘FAIL’) and display the result of the student in proper format. [20 marks]

//SYmarks.java

package  sy;

public class SYmarks

{

 int computertotal;

 int mathstotal;

int electronicstotal;

public SYmarks()

        {

                        computertotal=0;

mathstotal=0;

electronicstotal=0;

        }

        public SYmarks(int c,int m,int e)

        {

                this.computertotal=c;

                this.mathstotal=m;

                this.electronicstotal=e;

        }

}

//TYmarks.java

package ty;

public class TYmarks

{

public int theory;

public int practicals;

public TYmarks()

        {

                theory=0;

practicals=0;

        }

public TYmarks(int t,int p)

        {

                this.theory=t;

                this.practicals=p;

        }

}

 //main program

import sy.\*;

import ty.\*;

import java.io.\*;

public class Student

{

int roll\_no;

String name;

SYmarks sym;

TYmarks tym;

String Grade;

  public Student(int r, String na,int c\_t,int m\_t,int e\_t,int t1,int p,String g)

{

   roll\_no=r;

   name=na;

   sym=new SYmarks(c\_t,m\_t,e\_t);

   tym=new TYmarks(t1,p);

   Grade=g;

}

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

  //Displaying Roll No,Name , Marks and Grade

 public void show(int c\_t,int m\_t,int e\_t,int t1,int p,String g )

{

System.out.println("Roll No: "+roll\_no);

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

System.out.println("SY Computer marks :"+c\_t);

System.out.println("SY Maths marks :"+m\_t);

System.out.println("SY Electronic marks :"+e\_t);

System.out.println("TY theory marks :"+t1);

System.out.println("TY practical marks :"+p);

System.out.println("Grade :"+g);

    }

public static void main(String[] args)throws IOException

{

   String g;

   int n;

   BufferedReader br= new BufferedReader(new InputStreamReader(System.in));

   System.out.println("Enter how many students");

           n=Integer.parseInt(br.readLine());

   Student s[]=new Student[n];

      for(int i=0;i<n;i++)

   {

System.out.println("Enter Roll No");

int r=Integer.parseInt(br.readLine());

System.out.println("Enter Name");

String na=br.readLine();

System.out.print("Enter SY Computer marks");

int c\_t=Integer.parseInt(br.readLine());

System.out.print("Enter SY Maths marks");

int m\_t=Integer.parseInt(br.readLine());

System.out.print("Enter SY Electronics marks");

int e\_t=Integer.parseInt(br.readLine());

System.out.print("Enter TY Theory marks");

int t1=Integer.parseInt(br.readLine());

System.out.print("Enter TY Practical marks");

int p=Integer.parseInt(br.readLine());

double avrg=(c\_t+t1+p)/3;

//Calculate grade

     if(avrg>=70.0)

      {

      g="A";

      }

      else if(avrg<70.0 && avrg>=60.0)

       {

         g="B";

      }

else if(avrg<60.0 && avrg>=50.0)

      {

      g="C";

      }

else if(avrg<50.0 && avrg>=40)

      {

  g="Pass";

}

else

g="Fail";

s[i]=new Student(r,na,c\_t,m\_t,e\_t,t1,p,g);

// Display Details

      s[i].show(c\_t,m\_t,e\_t,t1,p,g);

  }

    }

}

**Slip15**

[November 02, 2023](https://nilambariblogfortybsc-cs.blogspot.com/2023/11/slip15.html)

 Q1) Accept the names of two files and copy the contents of the first to the second. First file having Book name and Author name in file. [10 marks]

import java.io.\*;

public class SetA3\_Copy

{

public static void main(String[] args) throws IOException

{

BufferedReader br = new BufferedReader(new InputStreamReader(System.in));

System.out.println("Enter Source file name");

String f1=br.readLine();

System.out.println("Enter Destination file name");

String f2=br.readLine();

FileReader in = new FileReader(f1);

FileWriter out = new FileWriter(f2);

int c;

while ((c=in.read()) != -1)

out.write(c);

out.write("\nEnd of file");

in.close();

out.close();

FileReader fr = new FileReader(f2);

while ((c=fr.read()) != -1)

System.out.print((char)c);

}

}

Q2) Write a program to define a class Account having members custname, accno. Define default and parameterized constructor. Create a subclass called SavingAccount with member savingbal, minbal. Create a derived class AccountDetail that extends the class SavingAccount with members, depositamt and withdrawalamt. Write a appropriate method to display customer details.

import java.util.\*;

class Account

{

   String cname;

   int ano;

   Account(int ano, String cname)

 {

       this.ano=ano;

this.cname=cname;

 }

void display()

 {

       System.out.println("Customer Name: "+cname+"\nAccount No: "+ano);

 }

}

class SavingAccount extends Account

{

   int savingbal, minbal;

   SavingAccount(int ano, String cname,int savingbal, int  minbal)

 {

       super(ano,cname);

this.savingbal=savingbal;

this.minbal=minbal;

 }

void display()

 {

super.display();

       System.out.println("Saving bal : "+savingbal+"\nMinimum bal: "+minbal);

 }

}

class AccountDetail extends SavingAccount

{

   int depositamt ,withdrawalamt;

   AccountDetail(int ano, String cname,int savingbal, int  minbal, int depositamt ,int withdrawalamt)

 {

       super(ano,cname, savingbal,minbal);

this.depositamt=depositamt ;

this.withdrawalamt=withdrawalamt;

 }

void display()

 {

super.display();

       System.out.println("Deposit amt  : "+depositamt +"\nWithdrawalamt: "+withdrawalamt);

 }

}

 class Slip15\_2

{

 public static void main( String args[] )

 {

   AccountDetail acc=new AccountDetail(101,"abc",5000,1000,2000,1000);

acc.display();

 }

}

**Slip 16**

[November 21, 2023](https://nilambariblogfortybsc-cs.blogspot.com/2023/11/slip-16.html)

Q1) Write a program to find the Square of given number using function interface. [10 marks]

//slip16\_1

//@FunctionalInterface

interface PrintNumber

{

public void print(int num1);

}

public class PrintSquare

{

public static void main(String[] a)

{

PrintNumber p = n -> System.out.println("Square is: "+ n\*n);

p.print(25);

}

}

Q2) Write a program to design a screen using Awt that, [20 marks]

import java.awt.\*;

 class Slip16\_2 extends Frame

 {

        Slip16\_2()

       {

            setLayout(new FlowLayout());

    MenuBar mb=new MenuBar();

            Menu menuFile = new Menu("File");

            Menu menuEdit = new Menu("Edit");

            Menu menuView = new Menu("About");

    MenuItem  m1= new MenuItem ("New");

            MenuItem  m2= new MenuItem ("Open");

            MenuItem  m3= new MenuItem ("Save");

    MenuItem  m4= new MenuItem ("Show About");

            MenuItem  m5= new MenuItem ("Exit");

            menuFile.add(m1);

            menuFile.add(m2);

            menuFile.add(m3);

menuFile.addSeparator();

menuFile.add(m4);

menuFile.addSeparator();

menuFile.add(m5);

    mb.add(menuFile);

    mb.add(menuEdit);

    mb.add(menuView);

    setMenuBar(mb);

    setTitle("Java AWT Example");

            setSize(300,100);

            setResizable(false);

            setVisible(true);

      }

      public static void main(String args[])

      {

            new Slip16\_2();

      }

   }

**Slip17**

[November 21, 2023](https://nilambariblogfortybsc-cs.blogspot.com/2023/11/slip17.html)

 Q1) Design a Super class Customer (name, phone-number). Derive a class Depositor(accno , balance) from Customer. Again, derive a class Borrower (loan-no, loan-amt) from Depositor. Write necessary member functions to read and display the details of ‘n’customers. [10 marks]

import java.util.\*;

class Customer

{

   String cname;

   int pno;

   Customer(String cname,int pno)

 {

this.cname=cname;

this.pno=pno;

 }

void display()

 {

       System.out.println("Customer Name: "+cname+"\nPhone No: "+pno);

 }

}

class Depositor extends Customer

{

   int accno , balance;

   Depositor(String cname,int pno,int accno, int  balance)

 {

        super(cname,pno);

this.accno=accno;

this.balance=balance;

 }

void display()

 {

super.display();

       System.out.println("Account No : "+accno+"\nBalance: "+balance);

 }

}

class Borrower extends Depositor

{

   int loanno, loanamt;

   Borrower(String cname,int pno,int accno, int  balance,int loanno, int loanamt)

 {

       super(cname,pno, accno,balance);

this.loanno=loanno ;

this.loanamt=loanamt;

 }

void display()

 {

super.display();

       System.out.println("Loan No  : "+loanno+"\nLoan amt: "+loanamt);

 }

}

 class Slip17\_1

{

 public static void main( String args[] )

 {

   Borrower acc=new Borrower("abc",123456789,5000,1000,2000,1000);

acc.display();

 }

}

Q2) Write Java program to design three text boxes and two buttons using swing. Enter different strings in first and second textbox. On clicking the First command button, concatenation of two strings should be displayed in third text box and on clicking second command button, reverse of string should display in third text box.

import java.awt.\*;

import java.awt.event.\*;

import javax.swing.\*;

public class Slip17\_2 implements ActionListener

{

JButton b1,b2;

JTextField t1,t2,t3;

    Slip17\_2()

    {

        JFrame frame = new JFrame("ActionListenerExample");

        frame.setLayout(new FlowLayout());

b1=new JButton("Concat");

b1.addActionListener(this);

b2=new JButton("Reverse");

b2.addActionListener(this);

t1=new JTextField(15);

t2=new JTextField(15);

t3=new JTextField(15);

frame.add(t1);frame.add(t2);

frame.add(b1);frame.add(b2);

frame.add(t3);

  frame.setSize(400,300);

        frame.setVisible(true);

        frame.setDefaultCloseOperation(JFrame.EXIT\_ON\_CLOSE);

     }

public void actionPerformed(ActionEvent ae)

{

  String s1=t1.getText();

String s2=t2.getText();

if(ae.getSource() == b1)

t3.setText(""+(s1+s2));

if(ae.getSource() == b2)

{

StringBuffer sb=new StringBuffer(s1);

t3.setText(""+(sb.reverse()));

}

}

     public static void main(String[] args)

{

  new Slip17\_2();

}

  }

**Slip18**

[November 21, 2023](https://nilambariblogfortybsc-cs.blogspot.com/2023/11/slip18.html)

 Q1) Write a program to implement Border Layout Manager. [10 marks]

 import java.awt.\*;

import java.awt.event.\*;

public class BorderLayoutExample

{

  public static void main(String[] args)

{

  Frame frame= new Frame("BorderLayout Frame");

  frame.setLayout(new BorderLayout(10,10));

Button b1=new Button("NORTH");

  frame.add(b1, BorderLayout.NORTH);

  frame.add(new Button("SOUTH"), BorderLayout.SOUTH);

  frame.add(new Button("EAST"), BorderLayout.EAST);

  frame.add(new Button("WEST"), BorderLayout.WEST);

  frame.add(new Button("CENTER"), BorderLayout.CENTER);

  frame.setSize(300,300);

  frame.setVisible(true);

  }

}

Q2) Define a class CricketPlayer (name,no\_of\_innings,no\_of\_times\_notout, totatruns, bat\_avg). Create an array of n player objects. Calculate the batting average for each player using static method avg(). Define a static sort method which sorts the array on the basis of average. Display the player details in sorted order.

import java.io.\*;

class CricketPlayer

{

String Name;

int no\_of\_ings;

int no\_of\_notout;

int total\_runs;

float bat\_avg;

public CricketPlayer()

{

Name="";

no\_of\_ings=0;

no\_of\_notout=0;

total\_runs=0;

bat\_avg=0.0f;

}

public CricketPlayer(String n,int i,int o,int r)

{

Name=n;

no\_of\_ings=i;

                no\_of\_notout=o;

         total\_runs=r;

        }

public static void average(CricketPlayer c[])

{

int n=c.length;

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

c[i].bat\_avg=(float)c[i].total\_runs/c[i].no\_of\_ings;

}

     public  static void sortPlayer(CricketPlayer c[])

{

int n=c.length;

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

{

for(int j=i+1;j<n;j++)

{

if(c[i].bat\_avg < c[j].bat\_avg)

      {

String temp=c[i].Name;

int t=c[i].no\_of\_ings;

int e=c[i].no\_of\_notout;

int p=c[i].total\_runs;

float m=c[i].bat\_avg;

 c[i].Name=c[j].Name;

                                c[i].no\_of\_ings=c[j].no\_of\_ings;

                                c[i].no\_of\_notout=c[j].no\_of\_notout;

                                c[i].total\_runs=c[j].total\_runs;

                                c[i].bat\_avg=c[j].bat\_avg;

 c[j].Name=temp;

                                c[j].no\_of\_ings=t;

                                c[j].no\_of\_notout=e;

                                c[j].total\_runs=p;

                                c[j].bat\_avg=m;

    }

}

}

}

void print()

{

System.out.println("Name="+Name);

System.out.println("No\_Of\_Innings="+no\_of\_ings);

System.out.println("No\_times\_notout="+no\_of\_notout);

System.out.println("Total Runs="+total\_runs);

System.out.println("Average="+bat\_avg);

System.out.println("-----------------------------");

}

}

class  Ass4setA1

{

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

{

BufferedReader br=new BufferedReader(new InputStreamReader(System.in));

System.out.println("Enter how many players");

int n=Integer.parseInt(br.readLine());

CricketPlayer cp[]= new CricketPlayer[n];

System.out.println("Enter players");

 for(int i=0;i<n;i++)

 {

System.out.println("Enter name,innings,notout,total runs");

String na=br.readLine();

int g=Integer.parseInt(br.readLine());

int o=Integer.parseInt(br.readLine());

int t=Integer.parseInt(br.readLine());

cp[i]=new CricketPlayer(na,g,o,t);

average(cp);

}

CricketPlayer.sortPlayer(cp);

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

cp[i].print();

}

}

**Slip19**

[November 21, 2023](https://nilambariblogfortybsc-cs.blogspot.com/2023/11/slip19.html)

Q1) Write a program to accept the two dimensional array from user and display sum of its diagonal elements. [10 marks]

import java.util.\*;

public class Slip19\_1

{

   public static void main(String[] args)

{

Scanner sc=new Scanner(System.in);

System.out.println("Enter size of the matrix ");

int r=sc.nextInt();

int c=sc.nextInt();

      int[][] m = new int[r][c];

      int sum=0;

      System.out.println("Enter the matrix elements : ");

      for (int i = 0; i < r; i++)

{

         for (int j = 0; j < c; j++)

  {

m[i][j]=sc.nextInt();

if(i==j)

sum+=m[i][j];

   }

}

        System.out.println(" The sum of diagonal elements of the matrix is: " + sum);

   }   }

Q2) Write a program which shows the combo box which includes list of T.Y.B.Sc.(Comp. Sci) subjects. Display the selected subject in a text field.

import java.util.\*;

public class Slip19\_1

{

   public static void main(String[] args)

{

Scanner sc=new Scanner(System.in);

System.out.println("Enter size of the matrix ");

int r=sc.nextInt();

int c=sc.nextInt();

      int[][] m = new int[r][c];

      int sum=0;

      System.out.println("Enter the matrix elements : ");

      for (int i = 0; i < r; i++)

{

         for (int j = 0; j < c; j++)

  {

m[i][j]=sc.nextInt();

if(i==j)

sum+=m[i][j];

   }

}

        System.out.println(" The sum of diagonal elements of the matrix is: " + sum);

   }   }

**Slip20**

[November 21, 2023](https://nilambariblogfortybsc-cs.blogspot.com/2023/11/slip20.html)

 Q1) Write a Program to illustrate multilevel Inheritance such that country is inherited from continent. State is inherited from country. Display the place, state, country and continent. [10 marks]

import java.io.\*;

class Continent

{

   String con;

  BufferedReader r  = new BufferedReader(new InputStreamReader(System.in));

 void con\_input() throws IOException

 {

       System.out.println("Enter Continent Name:  ");

       con = r.readLine();

 }

}

class Country extends Continent

{

 String cou ;

 void cou\_input() throws IOException

 {

       System.out.println("Enter Country Name:  ");

       cou = r.readLine();

 }

}

class State extends Country

{

 String sta,place;

 void sta\_input() throws IOException

 {

       System.out.println("Enter State Name:  ");

       sta = r.readLine();

System.out.println("Enter place Name:  ");

       place = r.readLine();

 }

 public static void main( String argsp[] )throws IOException

 {

   State s = new State();

s.con\_input();

   s.cou\_input();

   s.sta\_input();

    System.out.println("Continent: "+s.con);

   System.out.println("Country: "+s.cou);

   System.out.println("State: "+s.sta);

System.out.println("Place: "+s.place);

 }

}

Q2) Write a package for Operation, which has two classes, Addition and Maximum. Addition has two methods add () and subtract (), which are used to add two integers and subtract two, float values respectively. Maximum has a method max () to display the maximum of two integers

//Addition.java

package operation;

public class Addition

{

public void add(int a,int b)

{

int c=a+b;

System.out.println("Addition of 2 integer is :"+c);

}

public void sub(float a,float b)

{

float s=a-b;

System.out.println("Substraction of 2 float values is :"+s);

}

}

//Maximum.java

package operation;

public class Maximum

{

public void max(int a,int b)

{

if(a>b)

System.out.println(a+" is Maximum number of"+a+" and "+b);

else

System.out.println(b+" is Maximum number of"+a+" and "+b);

}

}

//main program

import operation.\*;

class Slip20\_2

{

public static void main(String args[])

{

Addition a=new Addition();

a.add(2,6);

a.sub(20.40f,10.70f);

Maximum m =new Maximum();

m.max(25,30);

}

}

**Slip21**

[November 21, 2023](https://nilambariblogfortybsc-cs.blogspot.com/2023/11/slip21.html)

 Q1) Define a class MyDate(Day, Month, year) with methods to accept and display a MyDateobject. Accept date as dd,mm,yyyy. Throw user defined exception "InvalidDateException" if the date is invalid. [10 marks]

class InvalidDateException extends Exception

{

    public InvalidDateException() {

        System.out.println("Given Date is Invalid");

    }

}

class MyDate

{

    int day,month,year;

    public MyDate(int day, int month, int year)

    {

        try {

    if (isValidDate(day, month, year)) {

            this.day = day;

            this.month = month;

            this.year = year;

    System.out.println("Valid Date: "+day+"/"+month+"/"+year);

        } else

            throw new InvalidDateException();

 } catch (InvalidDateException e) {    }

    }

    boolean isValidDate(int day, int month, int year)

    {

        if (month < 1 || month > 12)

            return false;

        int[] daysInMonth = {31, 28, 31, 30, 31, 30, 31, 31, 30, 31, 30, 31};

        if ((year % 4 == 0 && year % 100 != 0) || (year % 400 == 0))

            daysInMonth[1] = 29;

        return day > 0 && day <= daysInMonth[month - 1];

    }

    public static void main(String[] args) {

int d=Integer.parseInt(args[0]);

int m=Integer.parseInt(args[1]);

int y=Integer.parseInt(args[2]);

             MyDate date1 = new MyDate(d,m,y);

    }

}

Q2) Create an employee class(id,name,deptname,salary). Define a default and parameterized constructor. Use ‘this’ keyword to initialize instance variables. Keep a count of objects created. Create objects using parameterized constructor and display the object count after each object is created. (Use static member and method). Also display the contents of each object.

class Employee

{

    int empid,salary;

    String name,dept;

    static int cnt=0;

    public Employee()

    {

        cnt++;

    }

    public Employee(int empid,String name,String dept,int salary)

    {

        this.empid=empid;

        this.name=name;

this.dept=dept;

        this.salary=salary;

cnt++;

    }

public String toString()

        {

                return "empid: "+empid+" Name : "+name+" Dept : "+dept+" salary : "+salary;

        }

}

class SetA1

{

public static void main(String args[])

        {

        Employee e1=new Employee(1,"AAAA","Computer",20000);

System.out.println("NO. of objects = "+Employee.cnt);

System.out.println(e1);

Employee e2=new Employee(2,"BBBB","Computer",25000);

System.out.println("NO. of objects = "+Employee.cnt);

System.out.println(e2);

Employee e3=new Employee(3,"CCCC","Math",21000);

System.out.println("NO. of objects = "+Employee.cnt);

System.out.println(e3);

Employee e4=new Employee(4,"DDDD","Commerce",30000);

System.out.println("NO. of objects = "+Employee.cnt);

System.out.println(e4);

        }

}

**Slip22**

[November 22, 2023](https://nilambariblogfortybsc-cs.blogspot.com/2023/11/slip22.html)

 Q1) Write a 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. (use method overriding). [10 marks]

import java.util.\*;

abstract class shape

{

   int x,y;

   abstract void area(double x,double y);

}

class Rectangle extends shape

{

void area(double x,double y)

{

    System.out.println("Area of rectangle is :"+(x\*y));

}

}

class Circle extends shape

{

void area(double x,double y)

{

   System.out.println("Area of circle is :"+(3.14\*x\*x));

}

}

class Triangle extends shape

{

void area(double x,double y)

{

   System.out.println("Area of triangle is :"+(0.5\*x\*y));

}

}

public class Slip22\_1

{

  public static void main(String[] args)

  {

Rectangle r=new Rectangle();

        r.area(2,5);

Circle c=new Circle();

c.area(5,5);

Triangle t=new Triangle();

t.area(2,5);

  }

}

Q2) Write a program that handles all mouse events and shows the event name at the center of the Window, red in color when a mouse event is fired. (Use adapter classes).

import java.awt.\*;

import java.awt.event.\*;

public class Slip22\_2 extends MouseAdapter

{

    Frame f;

String msg;

    Slip22\_2(){

        f=new Frame("Mouse Adapter");

        f.addMouseListener(this);

        f.setSize(300,300);

        f.setLayout(null);

        f.setVisible(true);

    }

     public void paint(Graphics g)

{

g.setColor(Color.red);

g.drawString(msg,50,200);

g.drawString("Hi",150,200);

}

    public void mouseClicked(MouseEvent e)

    {

        msg="Mouse Clicked";

f.repaint();

    }

    public void mouseEntered(MouseEvent m)

{

msg="Mouse Entered";

f.repaint();

}

public void mouseExited(MouseEvent m)

{

msg="Mouse Exited";

f.repaint();

}

public void mousePressed(MouseEvent m)

{

msg="Mouse Pressed at X = "+m.getX()+" Y = "+m.getY();

f.repaint();

}

public void mouseReleased(MouseEvent m)

{

msg="Mouse Released";

f.repaint();

}

public static void main(String[] args) {

    new Slip22\_2();

}

}

**Slip23**

[October 03, 2024](https://nilambariblogfortybsc-cs.blogspot.com/2024/10/slip23.html)

 Q1) Define a class MyNumber having one private int data member. Write a default constructor to initialize it to 0 and another constructor to initialize it to a value (Use this). Write methods isNegative, isPositive, isZero, isOdd, isEven. Create an object in main.Use command line arguments to pass a value to the Object. [10 marks]

class MyNumber

{

private int no;

MyNumber()

{

no=5;

}

MyNumber(int no)

{

this.no=no;

}

public void isNegative()

{

if(no<0)

System.out.println("Given number is negative");

}

public void isPositive()

{

if(no>0)

System.out.println("Given number is Positive");

}

public void isZero()

{

if(no==0)

System.out.println("Given number is Zero");

}

public void isOdd()

{

if(no%2!=0)

System.out.println("Given number is Odd");

}

public void isEven()

{

if(no%2==0)

System.out.println("Given      is Even");

}

 public static void main(String args[])

{

MyNumber n1=new MyNumber();

System.out.println(n1.no+" Details");

n1.isNegative();

n1.isPositive();

n1.isZero();

n1.isOdd();

n1.isEven();

int n=Integer.parseInt(args[0]);

MyNumber n2=new MyNumber(n);

System.out.println(n2.no+" Details");

n2.isNegative();

n2.isPositive();

n2.isZero();

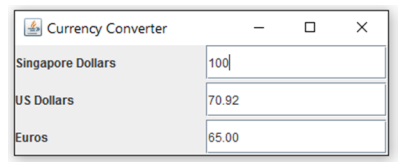
n2.isOdd();

n2.isEven();

}

}

Q2) Write a simple currency converter, as shown in the figure. User can enter the amount of "Singapore Dollars", "US Dollars", or "Euros", in floating-point number. The converted values shall be displayed to 2 decimal places. Assume that 1 USD = 1.41 SGD, 1 USD = 0.92 Euro, 1 SGD = 0.65 Euro.

[](https://blogger.googleusercontent.com/img/a/AVvXsEjInCLT-lR4bi24lUU6Q6beFud3RNtMTtHSDPLkOgmYyHxFlTsznKPTQkBABLeBAfFto_qqw_03I3DA3G86qMj1mQLd9J1xieapx3tdi2nxjoAOveGDwZWMQSeRfgQcSG_lEQMbs3VrtBlr-uBByV-Wfj7-iFLCAWTNKGPs1hULL45r0109dE4WU4owM7w)

import javax.swing.\*;

import java.awt.event.\*;

import java.awt.\*;

import java.text.DecimalFormat;

public class Slip23\_2 extends JFrame{

    // Conversion rates

     double USD\_TO\_SGD = 1.41;

     double USD\_TO\_EUR = 0.92;

     double SGD\_TO\_EUR = 0.65;

     JLabel sgdLabel,usdLabel,eurLabel;

     JTextField usdField,sgdField,eurField ;

    public static void main(String[] args)

{

new  Slip23\_2();

}

        // Create a new frame (window)

        Slip23\_2()

{

        setDefaultCloseOperation(JFrame.EXIT\_ON\_CLOSE);

        setSize(300, 200);

        sgdLabel = new JLabel("Singapore Dollars");

        sgdField = new JTextField();

        usdLabel = new JLabel("US Dollars");

        usdField = new JTextField();

        usdField.setEditable(false);

        eurLabel = new JLabel("Euros");

        eurField = new JTextField();

        eurField.setEditable(false);

setLayout(new GridLayout(3,2,5,5));

        sgdField.addActionListener(new ActionListener() {

            @Override

            public void actionPerformed(ActionEvent e) {

                try {

                    double sgdAmount = Double.parseDouble(sgdField.getText());

                    // Perform conversions

                    double usdAmount = sgdAmount / USD\_TO\_SGD;

                    double eurAmount = sgdAmount \* SGD\_TO\_EUR;

                    // Format the output to two decimal places

                    DecimalFormat df = new DecimalFormat("#.00");

                    usdField.setText(df.format(usdAmount));

                    eurField.setText(df.format(eurAmount));

                } catch (NumberFormatException ex) {

                    JOptionPane.showMessageDialog(null, "Please enter a valid number.");

                }

            }

        });

        add(sgdLabel);

        add(sgdField);

        add(usdLabel);

        add(usdField);

        add(eurLabel);

        add(eurField);

        setVisible(true);

    }

}

**Slip24**

[October 03, 2024](https://nilambariblogfortybsc-cs.blogspot.com/2024/10/slip24.html)

 Q1) Create an abstract class 'Bank' with an abstract method 'getBalance'. Rs.100, Rs.150 and Rs.200 are deposited in banks A, B and C respectively. 'BankA', 'BankB' and 'BankC' are subclasses of class 'Bank', each having a method named 'getBalance'. Call this method by creating an object of each of the three classes. [10 marks]

abstract class Bank

{

     abstract int getBalance();

}

class BankA extends Bank

{

 private int balance;

 void deposit(int money)

 {

balance += money;

 }

 int getBalance()

 {

     return balance;

 }

}

class BankB extends Bank

{

private int balance;

void deposit(int money)

        {

balance += money;

      }

       int getBalance()

       {

         return balance;

        }

}

class BankC extends Bank

{

   private int balance;

   void deposit(int money)

   {

      balance += money;

   }

  int getBalance()

   {

     return balance;

   }

}

public class Slip24\_1

 {

   public static void main(String[] args)

   {

BankA bankA = new BankA();

BankB bankB = new BankB();

BankC bankC = new BankC();

bankA.deposit(100);

bankB.deposit(150);

bankC.deposit(200);

System.out.println("Balance of Bank A = "+bankA.getBalance());

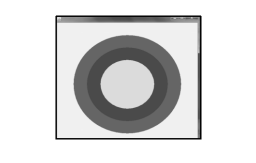
System.out.println("Balance of Bank B = "+bankB.getBalance());

System.out.println("Balance of Bank C = "+bankC.getBalance());

   }

}

Q2) Program that displays three concentric circles where ever the user clicks the mouse on a frame. The program must exit when user clicks ‘X’ on the frame. [20 marks]

[](https://blogger.googleusercontent.com/img/a/AVvXsEiiNtPQmjT6OIBw3cmLvy_-4EZF83B5cscVSDLiVqSJimdIm195VT41DkVS2FW6YfWu650wfcwBYea8c6c0FCwXkuiMPo06BQq1p5BeaYrODbw8bj7rlQX6m7km1TNV-hHb5Yk381nz_ZXbsXJGTXwSIyzTU7QylMByPr0a5yIsOGwdGPpyrNP93todgbA)

import javax.swing.\*;

import java.awt.\*;

import java.awt.event.\*;

public class Slip24\_2 extends JFrame

{

    public Slip24\_2()

    {

        setTitle("Concentric Circles");

        setSize(400, 400);

        setDefaultCloseOperation(JFrame.EXIT\_ON\_CLOSE);

        setLocationRelativeTo(null);

        addMouseListener(new MouseAdapter()

{

            public void mouseClicked(MouseEvent e) {

                int x = e.getX();

                int y = e.getY();

                // Draw circles based on mouse click position

                getGraphics().clearRect(0, 0, getWidth(), getHeight()); // Clear the previous circles

                drawConcentricCircles(x, y);

            }

        });

        setVisible(true);

    }

    public void drawConcentricCircles(int x, int y) {

        Graphics g = getGraphics();

        g.setColor(Color.LIGHT\_GRAY);

        g.fillOval(x - 50, y - 50, 100, 100);

        g.setColor(Color.GRAY);

        g.fillOval(x - 35, y - 35, 70, 70);

        g.setColor(Color.DARK\_GRAY);

        g.fillOval(x - 20, y - 20, 40, 40);

    }

    public static void main(String[] args)

    {

        new Slip24\_2();

    }

}

**Slip25**

[October 03, 2024](https://nilambariblogfortybsc-cs.blogspot.com/2024/10/slip25.html)

 Q1) Create a class Student(rollno, name ,class, per), to read student information from the console and display them (Using BufferedReader class) [10 marks]

import java.io.\*;

class Student\_25\_1

{

    int rollno;

    String name,studentClass;

    double percentage;

    public Student\_25\_1(int rollno, String name, String studentClass, double percentage)

    {

        this.rollno = rollno;

        this.name = name;

        this.studentClass = studentClass;

        this.percentage = percentage;

    }

    public String toString()

    {

        System.out.println("Student Details:");

        System.out.println("Roll No: " + rollno);

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

        System.out.println("Class: " + studentClass);

        System.out.println("Percentage: " + percentage + "%");

return "";

    }

    public static void main(String[] args) throws IOException

    {

        BufferedReader reader = new BufferedReader(new InputStreamReader(System.in));

        System.out.print("Enter Roll No: ");

        int rollno = Integer.parseInt(reader.readLine());

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

        String name = reader.readLine();

        System.out.print("Enter Class: ");

        String cls= reader.readLine();

        System.out.print("Enter Percentage: ");

        double p= Double.parseDouble(reader.readLine());

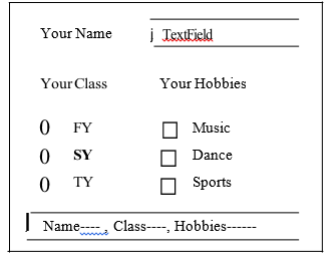
        Student\_25\_1 s1= new Student\_25\_1(rollno, name, cls, p);

        System.out.print(s1);

    }

}

Q2) Create the following GUI screen using appropriate layout manager. Accept the name, class, hobbies from the user and display the selected options in a textbox. [20 marks]

[](https://blogger.googleusercontent.com/img/a/AVvXsEgQKkTJS197-zUdn0u_4vlIYYfS2bL-uf5-EvPwwAE1me4Z16_DhKGUVUAsmu6TxVLsRVmZCDxLlOq0Zlp1RXPQ3GL8fvrI3bvXdgTIbC90awP4PUQxbigI7eIOk6lR5Grinjww15OskK_YhS5iC_Jgrk7nYHkeg8ReCGf6MC8PseMNXB_KZy8HMyXyGzc)

import java.awt.\*;

import java.awt.event.\*;

import javax.swing.\*;

public class Slip25\_2 extends JFrame implements ActionListener

{

        JTextField t1,t2;

        JCheckBox c[]=new JCheckBox[3];

       JRadioButton r[]=new JRadioButton[3];

public static void main(String arg[])

{

    Slip25\_2 c =new Slip25\_2();

    c.setSize(250,200);

    c.setVisible(true);

    c.setLocation(500,200);

    c.setDefaultCloseOperation(JFrame.EXIT\_ON\_CLOSE);

}

        public Slip25\_2()

        {

         setLayout(new FlowLayout());

 JPanel p1=new JPanel();

 p1.setLayout(new GridLayout(4,1));

 ButtonGroup b1 = new ButtonGroup();

 ButtonGroup b2 = new ButtonGroup();

         //add radio buttons

JPanel p2=new JPanel();

p2.setLayout(new GridLayout(4,1));

        JLabel l1=new JLabel("Your Name : ");

JLabel l2=new JLabel(" Your Class ");

JLabel l3=new JLabel(" Your Hobbies ");

        t1=new JTextField(10);

t2=new JTextField(22);

 r[0]=new JRadioButton("FY");r[0].setSelected(true);

         r[1]=new JRadioButton("SY");

 r[2]=new JRadioButton("TY");

for(int i=0;i<3;i++)

        b1.add(r[i]);

        c[0]=new JCheckBox("Music");c[0].setSelected(true);

c[1]=new JCheckBox("Dance");

c[2]=new JCheckBox("Sport");

  for(int i=0;i<3;i++)

  b2.add(c[i]);

          add(l1);add(t1);

p1.add(l2);

for(int i=0;i<3;i++)

  p1.add(r[i]);

p2.add(l3);

for(int i=0;i<3;i++)

  p2.add(c[i]);

add(p1);add(p2);

add(t2);

for(int i=0;i<3;i++)

{

        r[i].addActionListener(this);

        c[i].addActionListener(this);

        }

       }

  public void actionPerformed(ActionEvent ae)

  {

String na=t1.getText();

 String hobby="",cl="";

for(int i=0;i<3;i++)

if(c[i].isSelected())

 hobby=c[i].getText()+" ";

for(int i=0;i<3;i++)

if(r[i].isSelected())

 cl=r[i].getText()+" ";

t2.setText("Name : "+na+" Class : "+cl+" Hobbies : "+hobby);

  }

 }

**Slip26**

[October 03, 2024](https://nilambariblogfortybsc-cs.blogspot.com/2024/10/slip26.html)

 Q1) Define a Item class (item\_number, item\_name, item\_price). Define a default and parameterized constructor. Keep a count of objects created. Create objects using parameterized constructor and display the object count after each object is created.(Use static member and method). Also display the contents of each object. [10 marks]

class Item {

    int ino;

    String iname;

    double iprice;

    static int count = 0;

    public Item()

    {

        count++;

    }

    public Item(int ino, String iname, double iprice)

    {

        this.ino = ino;

        this.iname = iname;

        this.iprice = iprice;

      count++;

    }

    public static int getObjectCount()

    {

        return count;

    }

   public void displayItemDetails()

   {

        System.out.println("Item Details:");

        System.out.println("Item Number: " + ino);

        System.out.println("Item Name: " + iname);

        System.out.println("Item Price: $" + iprice);

        System.out.println();

    }

}

class Slip26\_1

{

    public static void main(String[] args)

    {

        Item item1 = new Item(101, "Laptop", 850.00);

        item1.displayItemDetails();

        System.out.println("Objects created: " + Item.getObjectCount());

        System.out.println();

        Item item2 = new Item(102, "Smartphone", 650.00);

        item2.displayItemDetails();

        System.out.println("Objects created: " + Item.getObjectCount());

        System.out.println();

        Item item3 = new Item(103, "Tablet", 300.00);

        item3.displayItemDetails();

        System.out.println("Objects created: " + Item.getObjectCount());

    }

}

Q2) Define a class ‘Donor’ to store the below mentioned details of a blood donor. name, age, address, contactnumber, bloodgroup, date of last donation. Create ‘n’ objects of this class for all the regular donors at Pune. Write these objects to a file. Read these objects from the file and display only those donors’ details whose blood group is ‘A+ve’ and had not donated for the recent six months. [20 marks]

import java.io.\*;

import java.util.Calendar;

import java.util.Date;

class Donor implements Serializable {

    String name,addr,conNo,blg;

    int age;

    Date lddate;

    public Donor(String name,int age,String addr,String conNo,String blg, Date lddate)

    {

        this.name = name;

        this.age = age;

        this.addr = addr;

        this.conNo = conNo;

        this.blg = blg;

        this.lddate = lddate;

    }

    public String getBloodGroup() {

        return blg;

    }

    public Date getDateOfLastDonation() {

        return lddate;

    }

    public void display() {

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

        System.out.println("Age: " + age);

        System.out.println("Address: " + addr);

        System.out.println("Contact Number: " + conNo);

        System.out.println("Blood Group: " + blg);

        System.out.println("Date of Last Donation: " + lddate);

        System.out.println();

    }

    public boolean isEligibleForDonation() {

        Calendar currentDate = Calendar.getInstance();

        Calendar donationDate = Calendar.getInstance();

        donationDate.setTime(lddate);

        donationDate.add(Calendar.MONTH, 6); // Add 6 months to the last donation date

        return currentDate.after(donationDate);

    }

    public static void writeDonorsToFile(Donor[] donors, String fileName) throws IOException {

        try (ObjectOutputStream oos = new ObjectOutputStream(new FileOutputStream(fileName))) {

            // Writing each donor object individually

            for (Donor donor : donors) {

                oos.writeObject(donor);

            }

        }

    }

    public static Donor readDonorFromFile(ObjectInputStream ois) throws IOException, ClassNotFoundException {

        return (Donor) ois.readObject();

    }

    public static Date createDate(int year, int month, int day)

    {

        Calendar cal = Calendar.getInstance();

        cal.set(Calendar.YEAR, year);

        cal.set(Calendar.MONTH, month - 1); // Months are 0-based in Calendar

        cal.set(Calendar.DAY\_OF\_MONTH, day);

        return cal.getTime();

    }

}

class Slip26\_2

{

public static void main(String[] args) {

        Donor[] donors = new Donor[5];

        donors[0] = new Donor("John Doe", 35, "123 Main St", "9876543210", "A+ve", Donor.createDate(2022, 1, 15));

        donors[1] = new Donor("Jane Smith", 28, "456 Elm St", "9876543211", "B+ve", Donor.createDate(2023, 3, 10));

        donors[2] = new Donor("Mike Johnson", 45, "789 Oak St", "9876543212", "A+ve", Donor.createDate(2021, 12, 1));

        donors[3] = new Donor("Emily Davis", 40, "101 Pine St", "9876543213", "O+ve", Donor.createDate(2023, 2, 20));

        donors[4] = new Donor("Chris Brown", 38, "202 Maple St", "9876543214", "A+ve", Donor.createDate(2023, 5, 18));

        String fileName = "donors.dat";

        try {

            Donor.writeDonorsToFile(donors, fileName);

            try (ObjectInputStream ois = new ObjectInputStream(new FileInputStream(fileName))) {

                System.out.println("Donors with blood group A+ve who have not donated in the last 6 months:");

                for (int i = 0; i < donors.length; i++) {

                    Donor donor = Donor.readDonorFromFile(ois);

                    if (donor.getBloodGroup().equals("A+ve") && donor.isEligibleForDonation()) {

                        donor.display();

                    }

                }

            }

        } catch (IOException | ClassNotFoundException e) {

            e.printStackTrace();

        }

    }

}

**Slp27**

[October 03, 2024](https://nilambariblogfortybsc-cs.blogspot.com/2024/10/slp27.html)

 Q1) Define an Employee class with suitable attributes having getSalary() method, which returns salary withdrawn by a particular employee. Write a class Manager which extends a class Employee, override the getSalary() method, which will return salary of manager by adding traveling allowance, house rent allowance etc. [10 marks]

class Employee {

    String name;

    double salary;

    public Employee(String name, double salary) {

        this.name = name;

        this.salary = salary;

    }

    public double getSalary() {

        return salary;

    }

}

class Manager extends Employee {

    double ta,ha;

    public Manager(String name, double salary, double ta,double ha){

        super(name, salary);

        this.ta = ta;

        this.ha = ha;

    }

    @Override

    public double getSalary() {

        return super.getSalary() + ta + ha;

    }

}

public class Slip27\_2{

    public static void main(String[] args) {

        Employee e1 = new Employee("Aaaaa", 5000.0);

        System.out.println("Employee Name = "+e1.name+" Salary: " + e1.getSalary());

        Manager m = new Manager("Bbbb", 8000.0, 1000.0, 2000.0);

        System.out.println("Manager Name = "+m.name+" Salary: " + m.getSalary());

    }

}

Q2) Write a program to accept a string as command line argument and check whether it is a file or directory. Also perform operations as follows: i)If it is a directory,delete all text files in that directory. Confirm delete operation from user before deleting text files. Also, display a count showing the number of files deleted, if any, from the directory. ii)If it is a file display various details of that file.

import java.io.\*;

class DirDemo

{

public static void main(String args[]) throws IOException

{

BufferedReader br=new BufferedReader(new InputStreamReader(System.in));

String dirname=args[0],ext;

int ch,i,cnt=0;

File f1=new File(dirname);

ext="txt";

if(f1.isFile())

{

System.out.println(f1+"is a File\n");

System.out.println("Path  : "+f1.getAbsolutePath());

System.out.println("File Size  : "+f1.length()+"bytes\n");

}

else if(f1.isDirectory())

{

System.out.println(args[0]+"Is a Directory\n");

System.out.println("Contents of  : "+dirname);

String s[]=f1.list();

for(i=0;i<s.length;i++)

{

File f=new File(dirname,s[i]);

if(f.isFile())

{

cnt++;

System.out.println(s[i]+"is a File\n");

}

else

System.out.println(s[i]+"is a Directory\n");

}

System.out.println("Total Number Of Files :"+cnt);

System.out.println("Do you want to delete files with extension 'txt'(1/0):?");

ch=Integer.parseInt(br.readLine());

if(ch==1)

{

for(i=0;i<s.length;i++)

{

File f=new File(dirname,s[i]);

if(f.isFile() && s[i].endsWith(ext))

{

System.out.println(s[i]+"->deleted");

f.delete();

}

}

}

}

}

}

**Slp28**

[October 04, 2024](https://nilambariblogfortybsc-cs.blogspot.com/2024/10/slp28.html)

 Q1) Write a program that reads on file name from the user, then displays information about whether the file exists, whether the file is readable, whether the file is writable, the type of file and the length of the file in bytes. [10 marks]

import java.io.File;

import java.util.Scanner;

public class Slip28\_1

{

    public static void main(String[] args)

    {

        Scanner scanner = new Scanner(System.in);

        System.out.print("Enter the file name (with full path): ");

        String fileName = scanner.nextLine();

        File file = new File(fileName);

        if (file.exists())

{

            System.out.println("File exists.");

            System.out.println("Readable: " + file.canRead());

            System.out.println("Writable: " + file.canWrite());

    System.out.println(file.isFile() ? "is normal file" : "might be a named pipe");

            System.out.println("It is " + (file.isDirectory() ? "" : "not" + " a directory"));

            System.out.println("File Length: " + file.length() + " bytes");

        }

        scanner.close();

    }

}

Q2) Write a program called SwingTemperatureConverter to convert temperature values between Celsius and Fahrenheit. User can enter either the Celsius or the Fahrenheit value, in floating-point number. Hints: To display a floating-point number in a specific format (e.g., 1 decimal place), use the static method String.format(), which has the same form as printf(). For example, String.format("%.1f", 1.234) returns String "1.2". [20 marks]

import javax.swing.\*;

import java.awt.\*;

import java.awt.event.\*;

public class Slip28\_2 extends JFrame {

    JTextField ctext;

    JTextField ftext;

    public Slip28\_2() {

        // Set up the frame

        setTitle("Temperature Converter");

        setSize(300, 100);

        setDefaultCloseOperation(JFrame.EXIT\_ON\_CLOSE);

        setLayout(new GridLayout(2, 2));

        // Create labels and text fields

        JLabel l1 = new JLabel("Celsius:");

        JLabel l2 = new JLabel("Fahrenheit:");

        ctext = new JTextField();

        ftext = new JTextField();

        // Add the components to the frame

        add(l1);

        add(ctext );

        add(l2);

        add(ftext);

setVisible(true);

        ftext.addActionListener(new ActionListener() {

            public void actionPerformed(ActionEvent e) {

                try {

                double fahrenheit = Double.parseDouble(ftext.getText());

                double celsius = (fahrenheit - 32) \* 5 / 9;

                ctext.setText(String.format("%.1f", celsius));

            } catch (NumberFormatException ex) {       }

            }

        });

ctext.addActionListener(new ActionListener() {

                       public void actionPerformed(ActionEvent e) {

                try {

                double celsius = Double.parseDouble(ctext.getText());

                double fahrenheit = (celsius \* 9 / 5) + 32;

                ftext.setText(String.format("%.1f", fahrenheit ));

            } catch (NumberFormatException ex) {       }

            }

        });

    }

    public static void main(String[] args) {

        new Slip28\_2();

    }

}

**Slip29**

[October 04, 2024](https://nilambariblogfortybsc-cs.blogspot.com/2024/10/slip29.html)

 Q1) Write a program to create a class Customer(custno,custname,contactnumber,custaddr). Write a method to search the customer name with given contact number and display the details. [10 marks]

import java.util.\*;

class Customer

{

    int custno;

    String custname,contactnumber,custaddr;

    public Customer(int custno, String custname, String contactnumber, String custaddr) {

        this.custno = custno;

        this.custname = custname;

        this.contactnumber = contactnumber;

        this.custaddr = custaddr;

    }

    public void displayDetails()

    {

        System.out.println("Customer Number: " +  custno);

        System.out.println("Customer Name: " + custname);

        System.out.println("Contact Number: " + contactnumber);

        System.out.println("Customer Address: " + custaddr);

    }

    public static void searchCustomer(Customer[] c,String cno)

    {

boolean flag=false;

        for (Customer ctemp : c) {

            if (ctemp.contactnumber.equals(cno))

    {

flag=true;

                ctemp.displayDetails();

break;

    }

            }

if(!flag)

        System.out.println("Customer Not Found");

        }

    }

class Slip29\_2

{

    public static void main(String[] args)

    {

        Customer[] cList = new Customer[3];

        cList[0] = new Customer(1, "aaaa", "1234567890", "123 Elm St");

        cList[1] = new Customer(2, "bbbb", "0987654321", "456 Oak St");

        cList[2] = new Customer(3, "cccc", "5555555555", "789 Pine St");

        Scanner scanner = new Scanner(System.in);

        System.out.print("Enter contact number to search for customer: ");

        String contactnumber = scanner.nextLine();

        Customer.searchCustomer(cList,contactnumber);

        scanner.close();

    }

}

Q2) Write a program to create a super class Vehicle having members Company and price. Derive two different classes LightMotorVehicle(mileage) and HeavyMotorVehicle (capacity\_in\_tons). Accept the information for "n" vehicles and display the information in appropriate form. While taking data, ask user about the type of vehicle first. [20 marks]

import java.io.\*;

class Vehicle

{

int price;

String company;

   Vehicle(String c,int p)

   {

       company=c;

       price=p;

   }

   public void display()

   {

System.out.print("Company : "+company+"\tPrice : "+price);

   }

}

class LightMotorVehicle extends Vehicle

{

   int mileage;

   LightMotorVehicle(String c,int p,int m)

   {

super(c,p);

        mileage=m;

   }

    public void display()

   {

super.display();

System.out.println("\tMileage : "+mileage);

   }

}

class HeavyMotorVehicle extends Vehicle

{

   int cap\_in\_tons;

   HeavyMotorVehicle(String c,int p,int cap)

   {

super(c,p);

        cap\_in\_tons=cap;

   }

    public void display()

   {

super.display();

System.out.println("\tCapacity\_in\_tons : "+cap\_in\_tons);

   }

}

class Ass3\_SetA3

{

        public static void main(String args[]) throws IOException

        {

                BufferedReader br = new BufferedReader(new InputStreamReader(System.in));

                System.out.println("Enter Total No. Vehicles");

                int n=Integer.parseInt(br.readLine());

Vehicle[] c=new Vehicle[n];

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

{

    System.out.println("Enter Company");

String com=br.readLine();

System.out.println("Enter Price");

    int p=Integer.parseInt(br.readLine());

    System.out.println("Enter 1:Light Motor Vehicle  2: Heavy Motor Vehicle");

    int ch=Integer.parseInt(br.readLine());

switch(ch)

    {

case 1:

System.out.println("Enter Mileage");

              int m=Integer.parseInt(br.readLine());

                                 c[i]=new LightMotorVehicle(com,p,m);

break;

case 2:

System.out.println("Enter Capacity in tons");

        int cap=Integer.parseInt(br.readLine());

                        c[i]=new HeavyMotorVehicle(com,p,cap);

                        break;

   }

}

System.out.println("---------------Vehicle Information---------------");

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

   c[i].display();

        }

}

**Slip30**

[October 04, 2024](https://nilambariblogfortybsc-cs.blogspot.com/2024/10/slip30.html)

 Q1) Write program to define class Person with data member as Personname,Aadharno, Panno. Accept information for 5 objects and display appropriate information (use this keyword). [10 marks]

import java.util.Scanner;

class Person {

    String personName, aadharNo, panNo;

        public Person(String personName, String aadharNo, String panNo)

        {

        this.personName = personName;

        this.aadharNo = aadharNo;

        this.panNo = panNo;

    }

    public String toString()

    {

        System.out.println("Person Name: " + this.personName);

        System.out.println("Aadhar Number: " + this.aadharNo);

        System.out.println("PAN Number: " + this.panNo);

       return "";

    }

}

public class Slip30\_1

{

    public static void main(String[] args) {

        Scanner scanner = new Scanner(System.in);

        Person[] p = new Person[2];

        for (int i = 0; i < 2; i++)

        {

            System.out.println("Enter details for Person " + (i + 1) + ":");

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

            String name = scanner.nextLine();

            System.out.print("Aadhar Number: ");

            String aadhar = scanner.nextLine();

            System.out.print("PAN Number: ");

            String pan = scanner.nextLine();

            p[i] = new Person(name, aadhar, pan);

        }

        System.out.println("\nDisplaying Information of Persons:");

        for (int i = 0; i < 2; i++) {

            System.out.println(p[i]);

        }

        scanner.close();

    }

}

Q2) Write a program that creates a user interface to perform integer divisions. The user enters two numbers in the text fields, Number1 and Number2. The division of Number1 and Number2 is displayed in the Result field when the Divide button is clicked. If Number1 or Number2 were not an integer, the program would throw a NumberFormatException. If Number2 were Zero, the program would throw an Arithmetic Exception Display the exception in a message dialog box. [20 marks]

import javax.swing.\*;

import java.awt.\*;

import java.awt.event.\*;

public class Slip30\_2 extends JFrame

{

    JTextField tn1,tn2,res;

    JButton b1;

    public Slip30\_2()

    {

        setTitle("Integer Division");

        setSize(300, 200);

        setDefaultCloseOperation(JFrame.EXIT\_ON\_CLOSE);

JPanel p1=new JPanel();

setLayout(new FlowLayout());

        p1.setLayout(new GridLayout(3,2,5,5));

        tn1= new JTextField(10);

        tn2= new JTextField(10);

        res= new JTextField(10);

        res.setEditable(false);

        b1= new JButton("Divide");

        p1.add(new JLabel("Number 1:"));

        p1.add(tn1);

        p1.add(new JLabel("Number 2:"));

        p1.add(tn2);

        p1.add(new JLabel("Result:"));

        p1.add(res);

add(p1);

add(b1);

        b1.addActionListener(new ActionListener(){

public void actionPerformed(ActionEvent e) {

            try {

                int number1 = Integer.parseInt(tn1.getText());

                int number2 = Integer.parseInt(tn2.getText());

                int result = number1 / number2;

                res.setText(String.valueOf(result));

            } catch (NumberFormatException ex){

            JOptionPane.showMessageDialog(null,

                        "Please enter valid integers.",

                  "Input Error",JOptionPane.ERROR\_MESSAGE);

            } catch (ArithmeticException ex) {

                // Handle division by zero

                JOptionPane.showMessageDialog(null,

                        "Division by zero is not allowed.",

               "Arithmetic Error",JOptionPane.ERROR\_MESSAGE);

            }

        }

});

        setVisible(true);

    }

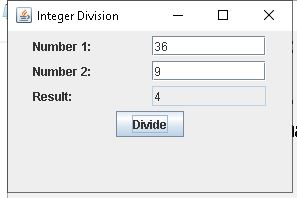
    public static void main(String[] args) {

        new Slip30\_2();

    }

}

output:

[](https://blogger.googleusercontent.com/img/b/R29vZ2xl/AVvXsEi4NKoqm9k8ASxGTc5fqy43LG6ZtRPOOZc931dyeGKkcWqYTokDmS30rQkTeykbDLLhxe29TLRy7E1KrJh4_9rLFRA9cCPvsH8MiThLsckk_0zJRVk3byDaZFpiaxmMj5PNX0HfZ5T-GydFyOKWaeCFI6-tfKMZ7OE_B3SS89MY5D0OvAsh_1JIhWqhm64/s297/slip30.JPG)

s