

**##Slip 1 & Slip 11 & Slip 23 & Slip 25 & Slip 29 Q1).**

```
import java.io.*;
class area
{
    public static void main(String args[])
    {
        int a,b,c,d,perimeter,area;
        a=c=5;
        b=d=2;
        area=a*b;
        perimeter=2*(a+b);
        System.out.println("Area of rectangle="+area);
        System.out.println("Area of
        perimeter="+perimeter);
    }
}
```

---

**##Slip 1 & slip 16****Q2).**

```
import java.io.BufferedReader;
import java.io.IOException;
import java.io.InputStreamReader;
abstract class Order{
    String id,description;
}
class PurchaseOrder extends Order{
    String Customername,Vendorname;
    public void accept() throws IOException{
        System.out.println("Enter the
        id,description,names of customers and vendors:
        ");
        BufferedReader br=new BufferedReader(new
        InputStreamReader(System.in));
        id=br.readLine();
        description=br.readLine();
        Customername=br.readLine();
        Vendorname=br.readLine();
    }
    public void display(){
        System.out.println("id: "+id);
        System.out.println("Description: "+description);
        System.out.println("Customername:
        "+Customername);
        System.out.println("Vendorname:
        "+Vendorname);
        System.out.println("-----");
    }
}
class SalesOrder extends Order{
    String Customername,Vendorname;
    public void accept() throws IOException{
        System.out.println("Enter the
        id,description,names of customers and vendors:
        ");
        BufferedReader br=new BufferedReader(new
        InputStreamReader(System.in));
        id=br.readLine();
```

```
        description=br.readLine();
        Customername=br.readLine();
        Vendorname=br.readLine();
    }
    public void display(){
        System.out.println("id: "+id);
        System.out.println("Description: "+description);
        System.out.println("Customername:
        "+Customername);
        System.out.println("Vendorname:
        "+Vendorname);
        System.out.println("-----");
    }
}
class Main {
    public static void main(String [] args) throws
    IOException{
        int i;
        System.out.println("Select Any One: ");
        BufferedReader br=new BufferedReader(new
        InputStreamReader(System.in));
        System.out.println("1.Purchase Order");
        System.out.println("2.Sales Order");
        int ch=Integer.parseInt(br.readLine());
        switch(ch){
            case 1:
                System.out.println("Enter the number of
                purchase Orders: ");
                int n=Integer.parseInt(br.readLine());
                PurchaseOrder [] l=new PurchaseOrder[n];
                for(i=0;i<n;i++){
                    l[i]=new PurchaseOrder();
                    l[i].accept();
                }
                for(i=0;i<n;i++){
                    l[i].display();
                    System.out.println ("Object is created");
                }
                break;
            case 2:
                System.out.println("Enter the number of sales
                orders: ");
                int m=Integer.parseInt(br.readLine());
                SalesOrder [] h=new SalesOrder[m];
                for(i=0;i<m;i++){
                    h[i]=new SalesOrder();
                    h[i].accept();
                }
                for(i=0;i<m;i++){
                    h[i].display();
                    System.out.println(" Object is created ");
                }
            }
        }
    }
}
```

---

**##Slip 2 & Slip 18****Q1).**

```

import java.util.Scanner;
public class Employee {
    int id;
    String name;
    String deptname;
    float salary;
    static int numberOfobjects=0;
    Employee(){
        id=0;
        name="";
        deptname="";
        salary=0;
    }
    Employee(int id,String name,String
    deptname,float salary ){
        this.id=id;
        this.name=name;
        this.deptname=deptname;
        this.salary=salary;
        numberOfobjects++;
    }
    public void display(){
        System.out.println("Employee Id :"+id);
        System.out.println("Employee name: "+name);
        System.out.println("Employee Department:
        "+deptname);
        System.out.println("Employee Salary :"+salary);
    }
    public static void main(String[] args){
        int n=0;
        Scanner sc=new Scanner(System.in);
        System.out.print("How many employees you
        want to enter :");
        n=sc.nextInt();
        Employee[] ob=new Employee[n];
        for(int i=0;i<n;i++){
            sc= new Scanner(System.in);
            System.out.println("Enter Id of employee
            "+(i+1)+" :");
            int id=sc.nextInt();
            System.out.println("Enter Name of employee
            "+(i+1)+" :");
            sc.nextLine();
            String name= sc.nextLine();
            System.out.println("Enter dept name of
            employee "+(i+1)+" :");
            String deptname=sc.nextLine();
            System.out.println("Enter salary of employee
            "+(i+1)+" :");
            float salary = sc.nextFloat();
            ob[i]=new Employee(id,name,deptname,salary);
            System.out.println("\nNumber of Objects :
            "+numberOfobjects);
        }
        for(int i=0;i<n;i++)

```

```

{
    ob[i].display();
}
}
}

```

**##Slip 2 & Slip 17****Q2).**

```

import java.util.Scanner;
class Product implements Cloneable
{
    int pid;
    String pname;
    double pcost;
    //Product class constructor
    public Product (int pid, String pname, double
    pcost)
    {
        this.pid = pid;
        this.pname = pname;
        this.pcost = pcost;
    }
    //method that prints the detail on the console
    public void showDetail()
    {
        System.out.println("Product ID: "+pid);
        System.out.println("Product Name: "+pname);
        System.out.println("Product Cost: "+pcost);
    }
    public static void main (String args[]) throws
    CloneNotSupportedException
    {
        //reading values of the product from the user
        Scanner sc = new Scanner(System.in);
        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.println("-----Product Detail-----");
        Product p1 = new Product(pid, pname, pcost);
        //cloning the object of the Product class using
        the clone() method
        Product p2 = (Product) p1.clone();
        //invoking the method to print detail
        p2.showDetail();
    }
}

```

**##Slip 3 & Slip 17 & Slip 20 & Slip 27  
Q1).**

```
class ReverseArray
{
    public static void main(String args[])
    {
        int a[]=new int[]{1,2,3,4,5};
        {
            System.out.println("Original array");
            for(int i=0; i<a.length;i++)
            {
                System.out.println(a[i]);
            }
            System.out.println("Reverse Array");
            for(int i=a.length-1;i>=0;i--)
            {System.out.println(a[i]);
            }
        }
    }
}
```

---

**Slip 3**

**Q2)**

```
import java.util.Scanner;
class Product implements Cloneable
{
    int pid;
    String pname;
    double pcost;
    //Product class constructor
    public Product (int pid, String pname, double
    pcost)
    {
        this.pid = pid;
        this.pname = pname;
        this.pcost = pcost;
    }
    //method that prints the detail on the console
    public void showDetail()
    {
        System.out.println("Product ID: "+pid);
        System.out.println("Product Name: "+pname);
        System.out.println("Product Cost: "+pcost);
    }
    public static void main (String args[]) throws
    CloneNotSupportedException
    {
        //reading values of the product from the user
        Scanner sc = new Scanner(System.in);
        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.println("-----Product Detail-----");
        Product p1 = new Product(pid, pname, pcost);
```

```
//cloning the object of the Product class using
the clone() method
Product p2 = (Product) p1.clone();
//invoking the method to print detail
p2.showDetail();
}
}
```

---

**##Slip 4****Q1).**

```

import java.text.ParseException;
import java.text.SimpleDateFormat;
import java.util.Date;
import java.util.Locale;
public class Newclass {
    public static void main(String[] args) {
        Date date = new Date();
        SimpleDateFormat formatter = new
        SimpleDateFormat("dd/MM/yyyy");
        String strDate = formatter.format(date);
        System.out.println("Current date is: "+strDate);
        formatter = new SimpleDateFormat("MM-dd-
        yyyy");
        strDate = formatter.format(date);
        System.out.println("Current date is: "+strDate);
        formatter = new SimpleDateFormat("EEEEEE
        MMMM dd yyyy");
        strDate = formatter.format(date);
        System.out.println("Current date is: "+strDate);
        formatter = new SimpleDateFormat("E MMMM
        dd HH:mm:ss z yyyy");
        strDate = formatter.format(date);
        System.out.println("Current date and time is:
        "+strDate);
        formatter = new SimpleDateFormat("dd/MM/yy
        HH:mm:ss a Z");
        strDate = formatter.format(date);
        System.out.println("Current date and time is:
        "+strDate);
        formatter = new
        SimpleDateFormat("hh:mm:ss");
        strDate = formatter.format(date);
        System.out.println("Current time is: "+strDate);
        formatter = new SimpleDateFormat("w");
        strDate = formatter.format(date);
        System.out.println("Current week of year is:
        "+strDate);
        formatter = new SimpleDateFormat("W");
        strDate = formatter.format(date);
        System.out.println("Current week of the month
        is: "+strDate);
        formatter = new SimpleDateFormat("D");
        strDate = formatter.format(date);
        System.out.println("Current day of the year:
        "+strDate);
    }
}

```

**##Slip 4 & Slip 25 & Slip 29****Q2).**

```

Import java.awt.*;
Import java.awt.event.*;
Import javax.swing.*;
Class MouseEvents extends JFrame implements
MouseListener, MouseMotionListener
{

```

```

String str="";
JTextArea ta;
Container c;
Int x,y;
MouseEvents()
{
}
c=getContentPane();
c.setLayout(new FlowLayout());;
ta=new JTextArea("Click the mouse or move it",
5,20);
ta.setFont(new Font("Arial",Font.BOLD,30));
c.add(ta);
ta.addMouseListener(this);
ta.addMouseMotionListener(this);
public void mouseClicked(MouseEvent me)
{
    int i=me.getButton();
    if(i==1)
        str+="Clicked Button: Left";
    else if(i==2)
        str+="Clicked Button: Middle";
    else if(i==3)
        str+="Clicked Button: Right";
    this.display();
}
public void mouseEntered(MouseEvent me)
{
}
str+="Mouse Entered ";
this.display();
public void mouseExited(MouseEvent me)
{
}
str+="MouseExited";
this.display();
public void mousePressed(MouseEvent me)
{
}
x=me.getX();
y=me.getY();
str+="MousePressed at: "+x+"\t"+y;
this.display();
public void mouseReleased(MouseEvent me)
{
}
x=me.getX();
y=me.getY();
str+="Mouse Released at: "+x+"\t"+y;
this.display();
}
public void mouseDragged(MouseEvent me)
{
}
x=me.getX();
y=me.getY();
str+="MouseDragged at: "+x+"\t"+y;
this.display();
}

```

```

public void mouseMoved(MouseEvent me)
{
}
x=me.getX();
y=me.getY();
str+="Mouse Moved at:"+x+"\t"+y;
this.display();
public void display()
{
}
ta.setText(str);
str="";
public static void main(String[] args) {
// TODO Auto-generated method stub
MouseEvents mes=new MouseEvents();
mes.setSize(400,400);
mes.setVisible(true);
mes.setDefaultCloseOperation(JFrame.EXIT_ON
_CLOSE);
}
}

```

---

## ##Slip 5

### Q1)

```

public class MyNumber
{
private int x;
public MyNumber()
{
x=0;
}
public MyNumber(int x)
{
this.x=x;
}
public boolean isNegative()
{
if(x<0)
return true;
else return false;
}
public boolean isPositive()
{
if(x>0)
return true;
else return false;
}
public boolean isZero()
{
if(x==0)
return true;
else return false;
}
public boolean isOdd()
{
if(x%2!=0)
return true;
else return false;
}
public boolean isEven()
{
if(x%2==0)
return true;
else return false;
}
public static void main(String [] args) throws
ArrayIndexOutOfBoundsException
{
int x=Integer.parseInt(args[0]);
MyNumber m=new MyNumber(x);
if(m.isNegative())
System.out.println("Number is Negative");
if(m.isPositive())
System.out.println("Number is Positive");
if(m.isEven())
System.out.println("Number is Even");
if(m.isOdd())
System.out.println("Number is Odd");
if(m.isZero())

```

```

System.out.println("Number is Zero");
}
}

```

---

## ##Slip 5 & Slip 27

**Q2).**

```

import java.awt.*;
import java.awt.event.*;
class InvalidPasswordException extends
Exception
{
InvalidPasswordException()
{
System.out.println(" User name and Password is
not same");
}
}
public class PasswordDemo extends Frame
implements ActionListener
{
Label uname,upass;
TextField nametext;
TextField passtext,msg;
Button login,Clear;
Panel p;
int attempt=0;
char c= ' * ' ;
public void login()
{
p=new Panel();
uname=new Label("Use Name: ",Label.CENTER);
upass=new Label ("Password: ",Label.RIGHT);
nametext=new TextField(20);
passtext =new TextField(20);
passtext.setEchoChar(c);
msg=new TextField(10);
msg.setEditable(false);
login=new Button("Login");
Clear=new Button("Clear");
login.addActionListener(this);
Clear.addActionListener(this);
p.add(uname);
p.add(nametext);
p.add(upass);
p.add(passtext);
p.add(login);
p.add(Clear);
p.add(msg);
add(p);
setTitle("Login ");
setSize(290,200);
setResizable(false);
setVisible(true);
}
public void actionPerformed(ActionEvent ae)
{
Button btn=(Button)(ae.getSource());
if(attempt<3)

```

```

{
if((btn.getLabel()=="Clear")
{
nametext.setText("");
passtext.setText("");
}
if((btn.getLabel()).equals("Login"))
{
try
{
String user=nametext.getText();
String upass=passtext.getText();
if(user.compareTo(upass)==0)
{
msg.setText("Valid");
System.out.println("Username is valid");
}
else
{
throw new InvalidPasswordException();
}
}
catch(Exception e)
{
msg.setText("Error");
}
attempt++;
}
else
{
System.out.println("you are using 3 attempt");
System.exit(0);
}
}
public static void main(String args[])
{
PasswordDemo pd=new PasswordDemo();
pd.login();
}
}

```

---

**##Slip 6 & slip15 & slip28****Q1).**

```
import java.io.*;
class sort
{
    public static void main(String[] args) throws
    IOException
    {
        BufferedReader br= new BufferedReader(new
        InputStreamReader(System.in));
        int [] arr=new int[5];
        for(int i=0;i<5;i++) //Array Initialization
        {
            arr[i]=Integer.parseInt(br.readLine());
        }
        int temp = 0; //Temporary variable to store the
        element
        for (int i = 0; i < 5; i++) //Holds each Array
        element
        {
            for (int j = i+1; j < 5; j++) //compares with
            remaining Array elements
            {
                if(arr[i] > arr[j]) //Compare and swap
                {
                    temp = arr[i];
                    arr[i] = arr[j];
                    arr[j] = temp;
                }
            }
        }
        System.out.println();
        //Displaying elements of array after sorting
        System.out.println("Elements of array sorted in
        ascending order: ");
        for (int i = 0; i < 5; i++)

        {
            System.out.print(arr[i] + " ");
        }
    }
}
```

**##Slip 6 & Slip 28****Q2).**

```
import java.util.Scanner;
public class multidimensional{
    public static void main(String args[])
    {
        //Scanner class to take input
        Scanner scan = new Scanner(System.in);
        int row, col;
        int mat1[][] = new int[3][3];
        int mat2[][] = new int[3][3];
        //Entering first matrix
        System.out.println("Enter the 3x3 matrix
        elements for 1st matrix : ");
```

```
// Loop to take array elements as user input for
first matrix i.e mat1
for(row=0;row<3;row++)
for(col=0;col<3;col++)
mat1[row][col] = scan.nextInt();
//print the elements of first matrix i.e mat1
System.out.print("1st matrix : ");
for(row=0;row<3;row++)
{
    // Used for formatting
    System.out.print("\n");
    for(col=0;col<3;col++)
    {
        System.out.print(mat1[row][col]+" ");
    }
}
//Entering second matrix
System.out.println("\nEnter the 3x3 matrix
elements for 2nd matrix : ");
// Loop to take array elements as user input for
second matrix
for(row=0;row<3;row++)
for(col=0;col<3;col++)
mat2[row][col] = scan.nextInt();
//print the elements of second matrix i.e mat2
System.out.print("2nd matrix : ");
for(row=0;row<3;row++)
{
    // Used for formatting
    System.out.print("\n");
    for(col=0;col<3;col++)
    {
        System.out.print(mat2[row][col]+" ");
    }
}
int res[][] = new int[3][3], operationHolder = 0;
int choice ;
while(true)
{
    //Prints the menu to choose operation from
    System.out.println("\n\nBASIC MATRIX
    OPERATIONS");
    System.out.println("_____
    _");
    System.out.println("1. Addition of two
    matrices");
    System.out.println("2. Subtraction of two
    matrices");
    System.out.println("3. Multiplication of two
    matrices");
    System.out.println("4. Transpose");
    System.out.println("5. Exit");
    System.out.println("_____
    _");
    System.out.println("Enter your choice : ");
    choice = scan.nextInt();
    // Switch cases to run the menu
```

```

switch(choice)
{
case 1: res = add(mat1,mat2);
System.out.println("After add operation");
printMatrix(res);
break;
case 2: res = sub(mat1,mat2);
System.out.println("After subtract operation");
printMatrix(res);
break;
case 3: res = prod(mat1,mat2);
System.out.println("After multiply operation");
printMatrix(res);
break;
case 4: res = trans(mat1);
System.out.println("After transpose operation");
printMatrix(res);
break;
case 5: System.out.println("Exited from the
program");
return;
default: System.out.println("Wrong input,
please try again!!");
}
}
}
// Function to print the matrix
static void printMatrix(int arr[][])
{
int row, col;
System.out.print("The array elements are : ");
// Loop to print the elements
for(row=0;row<3;row++)
{
// Used for formatting
System.out.print("\n");
for(col=0;col<3;col++)
{
System.out.print(arr[row][col]+" ");
}
}
}
// Function to calculate the sum
static int[][] add(int[][] mat1,int[][] mat2)
{
int row, col, add[][] = new int[3][3];
for(row=0;row<3;row++)
for(col=0;col<3;col++)
add[row][col] = mat1[row][col]+mat2[row][col];
return add;
}
// Function to calculate the difference
static int[][] sub(int[][] mat1,int[][] mat2)
{
int row, col, sub[][] = new int[3][3];
for(row=0;row<3;row++)
for(col=0;col<3;col++)

```

```

sub[row][col] = mat1[row][col]-mat2[row][col];
return sub;
}
// Function to calculate the product
static int[][] prod(int[][] mat1,int[][] mat2)
{
int row, col, prod[][] = new int[3][3];
for(row=0;row<3;row++)
for(col=0;col<3;col++)
{
// Initializes the array element to zero first
prod[row][col] = 0;
for(int i = 0; i<3; i++)
prod[row][col]+=mat1[row][i]*mat2[i][col];
}
return prod;
}
// Function to find the transpose
static int[][] trans(int[][] mat)
{
int row, col, trans[][] = new int[3][3];
for(row=0;row<3;row++)
for(col=0;col<3;col++)
trans[row][col] = mat[col][row];
return trans;
}
}

```

---



**##Slip 7**  
**Q1).**

```
import java.util.Scanner;
public class Employee {
    int id;
    String name;
    String deptname;
    float salary;
    static int numberofobjects=0;
    Employee(){
        id=0;
        name="";
        deptname="";
        salary=0;
    }
    Employee(int id,String name,String
    deptname,float salary ){
        this.id=id;
        this.name=name;
        this.deptname=deptname;
        this.salary=salary;
        numberofobjects++;
    }
    public void display(){
        System.out.println("Employee Id :"+id);
        System.out.println("Employee name: "+name);
        System.out.println("Employee Department:
        "+deptname);
        System.out.println("Employee Salary :"+salary);
    }
    public static void main(String[] args){
        int n=0;
        Scanner sc=new Scanner(System.in);
        System.out.print("How many employees you
        want to enter :");
        n=sc.nextInt();
        Employee[] ob=new Employee[n];
        for(int i=0;i<n;i++){
            sc= new Scanner(System.in);
            System.out.println("Enter Id of employee
            "+(i+1)+" :");
            int id=sc.nextInt();
            System.out.println("Enter Name of employee
            "+(i+1)+" :");
            sc.nextLine();
            String name= sc.nextLine();
            System.out.println("Enter dept name of
            employee "+(i+1)+" :");
            String deptname=sc.nextLine();
            System.out.println("Enter salary of employee
            "+(i+1)+" :");
            float salary = sc.nextFloat();
            ob[i]=new Employee(id,name,deptname,salary);
            System.out.println("\nNumber of Objects :
            "+numberofobjects);
        }
    }
}
```

```
for(int i=0;i<n;i++)
{
    ob[i].display();
}
}
```

---

**Q2).**

```
import java.io.*;
class Cricket
{
    String name;
    int inning, tofnotout, totalruns;
    float batavg;
    public Cricket()
    {
        name=null;
        inning=0;
        tofnotout=0;
        totalruns=0;
        batavg=0;
    }
    public void get() throws IOException
    {
        BufferedReader br=new BufferedReader(new
        InputStreamReader(System.in));
        System.out.println("Enter the name, no of
        innings, no of times not out, total runs: ");
        name=br.readLine();
        inning=Integer.parseInt(br.readLine());
        tofnotout=Integer.parseInt(br.readLine());
        totalruns=Integer.parseInt(br.readLine());
    }
    public void put()
    {
        System.out.println("Name="+name);
        System.out.println("no of innings="+inning);
        System.out.println("no times
        notout="+tofnotout);
        System.out.println("total runs="+totalruns);
        System.out.println("bat avg="+batavg);
    }
    static void avg(int n, Cricket c[])
    {
        try
        {
            for(int i=0;i<n;i++)
            {
                c[i].batavg=c[i].totalruns/c[i].inning;
            }
        }
        catch(ArithmeticException e)
        {
            System.out.println("Invalid arg");
        }
    }
    static void sort(int n, Cricket c[]){
        String temp1;
```

```

int temp2,temp3,temp4;
float temp5;
for(int i=0;i<n;i++)
{
for(int j=i+1;j<n;j++)
{
if(c[i].batavg<c[j].batavg)
{
temp1=c[i].name;
c[i].name=c[j].name;
c[j].name=temp1;
temp2=c[i].inning;
c[i].inning=c[j].inning;
c[j].inning=temp2;
temp3=c[i].tofnotout;
c[i].tofnotout=c[j].tofnotout;
c[j].tofnotout=temp3;
temp4=c[i].totalruns;
c[i].totalruns=c[j].totalruns;
c[j].totalruns=temp4;
temp5=c[i].batavg;
c[i].batavg=c[j].batavg;
c[j].batavg=temp5;
}
}
}
}
}
class calculate
{
public static void main(String args[])throws
IOException
{
BufferedReader br=new BufferedReader(new
InputStreamReader(System.in));
System.out.println("Enter the limit:");
int n=Integer.parseInt(br.readLine());
Cricket c[]=new Cricket[n];
for(int i=0;i<n;i++)
{
c[i]=new Cricket();
c[i].get();
}
Cricket.avg(n,c);
Cricket.sort(n, c);
for(int i=0;i<n;i++){
c[i].put();
}
}
}

```

---

### ##Slip 8 & Slip 16 Q1).

```

import java.io.BufferedReader;
import java.io.IOException;
import java.io.InputStreamReader;
class Student
{
int rollno;
String name;
float per;
static int count;
Student(){}
Student(String n,float p)
{
count++;
rollno=count;
name=n;
per=p;
}
void display()
{
System.out.println(rollno+"\t"+name+"\t"+per);
}
float getper()
{
return per;
}
static void counter()
{
System.out.println(count+" object is created");
}
public static void sortStudent(Student s[],int n)
{
for(int i=n-1;i>=0;i--)
{
for(int j=0;j<i;j++)
{
if(s[j].getper(>s[j+1].getper())
{
Student t=s[j];
s[j]=s[j+1];
s[j+1]=t;
}
}
}
for(int i=0;i<n;i++)
s[i].display();
}
}
class Studentclass
{
public static void main(String args[]) throws
IOException
{
BufferedReader br=new BufferedReader(new
InputStreamReader(System.in));
System.out.println("Enter no. of Student:");

```

```

int n=Integer.parseInt(br.readLine());
Student p[]=new Student[n];
for(int i=0;i<n;i++)
{
    System.out.print("Enter Name:");
    String name=br.readLine();
    System.out.print("Enter percentage:");
    float per=Float.parseFloat(br.readLine());
    p[i]=new Student(name,per);
    p[i].counter();
}
Student.sortStudent(p,Student.count);
}
}

```

---

Q2).

```

import java.io.BufferedReader;
import java.io.IOException;
import java.io.InputStreamReader;
abstract class Order{
    String id,description;
}
class PurchaseOrder extends Order{
    String Customername,Vendorname;
    public void accept() throws IOException{
        System.out.println("Enter the
        id,description,names of customers and vendors:
        ");
        BufferedReader br=new BufferedReader(new
        InputStreamReader(System.in));
        id=br.readLine();
        description=br.readLine();
        Customername=br.readLine();
        Vendorname=br.readLine();
    }
    public void display(){
        System.out.println("id: "+id);
        System.out.println("Description: "+description);
        System.out.println("Customername:
        "+Customername);
        System.out.println("Vendorname:
        "+Vendorname);
        System.out.println("-----");
    }
}
class SalesOrder extends Order{
    String Customername,Vendorname;
    public void accept() throws IOException{
        System.out.println("Enter the
        id,description,names of customers and vendors:
        ");
        BufferedReader br=new BufferedReader(new
        InputStreamReader(System.in));
        id=br.readLine();
        description=br.readLine();
        Customername=br.readLine();
        Vendorname=br.readLine();
    }
}

```

```

public void display(){
    System.out.println("id: "+id);
    System.out.println("Description: "+description);
    System.out.println("Customername:
    "+Customername);
    System.out.println("Vendorname:
    "+Vendorname);
    System.out.println("-----");
}
}
class Main {
    public static void main(String [] args) throws
    IOException{
        int i;
        System.out.println("Select Any One: ");
        BufferedReader br=new BufferedReader(new
        InputStreamReader(System.in));
        System.out.println("1.Purchase Order");
        System.out.println("2.Sales Order");
        int ch=Integer.parseInt(br.readLine());
        switch(ch){
            case 1:
                System.out.println("Enter the number of
                purchase Orders: ");
                int n=Integer.parseInt(br.readLine());
                PurchaseOrder [] l=new PurchaseOrder[n];
                for(i=0;i<n;i++){
                    l[i]=new PurchaseOrder();
                    l[i].accept();
                }
                for(i=0;i<n;i++){
                    l[i].display();
                    System.out.println ("Object is created");
                }
                break;
            case 2:
                System.out.println("Enter the number of sales
                orders: ");
                int m=Integer.parseInt(br.readLine());
                SalesOrder [] h=new SalesOrder[m];
                for(i=0;i<m;i++){
                    h[i]=new SalesOrder();
                    h[i].accept();
                }
                for(i=0;i<m;i++){
                    h[i].display();
                    System.out.println(" Object is created ");
                }
            }
        }
    }
}

```

---

**##Slip 10****Q1)**

```

import java.util.*;
class person
{
String fname,mname,lname;
int len;
void accept()
{
System.out.println("Enter First Name :");
Scanner s=new Scanner(System.in);
fname=s.next();
System.out.println("Enter Middle Name :");
mname=s.next();
System.out.println("Enter Last Name :");
lname=s.next();
len=mname.length();
String f=mname.substring(0,1);
String l=mname.substring(1,len);
f=f.toUpperCase();
mname=f+l;
}
void display()
{
System.out.println("Last Name :"+lname);
System.out.println("First Name :"+fname);
System.out.println("Middle Name :"+mname);
}
public static void main(String a[])
{
person p=new person();
p.accept();
p.display();
}
}

```

---

**##Slip 10 & slip 14****Q2).**

```

import java.util.Scanner;

interface Operation{
double PI=3.142;
double area();
double volume();
}

class Cylinder implements Operation{
private double radius;
private double height;

public Cylinder(double radius, double height){
this.radius=radius;
this.height=height;
}

@Override
public double area(){
return 2*PI*radius*(radius+height);
}
}

```

```

}

@Override
public double volume(){
return PI*radius*radius*height;
}
}

public class AreaVolume{
public static void main(String[] args){
Scanner scanner = new Scanner(System.in);

System.out.print("Enter the radius of
Cylinder :");
double radius = scanner.nextDouble();
System.out.print("Enter the height of
Cylinder :");
double height = scanner.nextDouble();

Operation c= new Cylinder(radius,height);
System.out.println("Cylinder
Area :"+c.area());
System.out.println("Cylinder
Volumne :"+c.volume());

scanner.close();
}
}

```

---

**##Slip 11****Q2)**

```
package Assignment2.SY;
import java.io.BufferedReader;
import java.io.*;
public class SYClass {
    public int ct,mt,et;
    public void get() throws IOException{
        System.out.println("Enter marks of students for
        computer, maths and electronics subject out of
        200
        ");
        BufferedReader br=new BufferedReader(new
        InputStreamReader(System.in));
        ct=Integer.parseInt(br.readLine());
        mt=Integer.parseInt(br.readLine());
        et=Integer.parseInt(br.readLine());
    }
}
/*****
*****/
package Assignment2.TY;
import java.io.*;
public class TYClass {
    public int tm,pm;
    public void get() throws IOException{
        System.out.println("Enter the marks of the
        theory out of 400 and practicals out of 200: ");
        BufferedReader br=new BufferedReader(new
        InputStreamReader(System.in));
        tm=Integer.parseInt(br.readLine());
        pm=Integer.parseInt(br.readLine());
    }
}
/*****
*****/
package Assignment2;
import Assignment2.SY.*;
import Assignment2.TY.*;
import java.io.*;
class StudentInfo{
    int rollNo;
    String name,grade;
    public float gt,tyt,syt;
    public float per;
    public void get() throws IOException{
        System.out.println("Enter roll number and
        name of the student: ");
        BufferedReader br=new BufferedReader(new
        InputStreamReader(System.in));
        rollNo=Integer.parseInt(br.readLine());
        name=br.readLine();
    }
}
public class StudentMarks {
    public static void main(String[] args) throws
    IOException{
```

```
    BufferedReader br=new BufferedReader(new
    InputStreamReader(System.in));
    System.out.println("Enter the number of
    students:");
    int n=Integer.parseInt(br.readLine());
    SYClass sy[]=new SYClass[n];
    TYClass ty[]=new TYClass[n];
    StudentInfo si[]=new StudentInfo[n];
    for(int i=0;i<n;i++)
    {
        si[i]=new StudentInfo();
        sy[i]=new SYClass();
        ty[i]=new TYClass();
        si[i].get();
        sy[i].get();
        ty[i].get();
        si[i].syt=sy[i].ct+sy[i].et+sy[i].mt;
        si[i].tyt=ty[i].pm+ty[i].tm;
        si[i].gt=si[i].syt+si[i].tyt;
        si[i].per=(si[i].gt/1200)*100;
        if(si[i].per>=70) si[i].grade="A";
        else if(si[i].per>=60) si[i].grade="B";
        else if(si[i].per>=50) si[i].grade="C";
        else if(si[i].per>=40) si[i].grade="Pass";
        else si[i].grade="Fail";
    }
    System.out.println("Roll
    No\tName\tSyTotal\tTyTotal\tGrandTotal\tPerc
    entage\tGrade");
    for(int i=0;i<n;i++)
    {
        System.out.println(si[i].rollNo+"\t"+si[i].name+
        "\t"+si[i].syt+"\t"+si[i].tyt+"\t"+si[i].gt+"\t"+si[i].
        p
        er+"\t"+si[i].grade);
    }
}
}
```

---

**##Slip 12 & slip 13****Q1).**

```

import java.io.InputStreamReader;
import java.io.BufferedReader;
import java.io.IOException;
class Continent
{
    String con;
    InputStreamReader i = new
    InputStreamReader(System.in);
    BufferedReader r = new BufferedReader(i);
    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;
    void sta_input() throws IOException
    {
        System.out.println("Enter State Name: ");
        sta = r.readLine();
    }
}
class Main extends State
{
    String pla;
    void pla_input()throws IOException
    {
        System.out.println("Enter Place Name : ");
        pla = r.readLine();
    }
    public static void main( String args[] )throws
    IOException
    {
        Main s = new Main();
        s.con_input();
        s.cou_input();
        s.sta_input();
        s.pla_input();
        System.out.println("\n\nContinent: "+s.con);
        System.out.println("Country: "+s.cou);
        System.out.println("State: "+s.sta);
        System.out.println("Place : " + s.pla);
    }
}

```

---

**Q2).**

```

import java.io.*;
class Cricket
{
    String name;
    int inning, tofnotout, totalruns;
    float batavg;
    public Cricket()
    {
        name=null;
        inning=0;
        tofnotout=0;
        totalruns=0;
        batavg=0;
    }
    public void get() throws IOException
    {
        BufferedReader br=new BufferedReader(new
        InputStreamReader(System.in));
        System.out.println("Enter the name, no of
        innings, no of times not out, total runs: ");
        name=br.readLine();
        inning=Integer.parseInt(br.readLine());
        tofnotout=Integer.parseInt(br.readLine());
        totalruns=Integer.parseInt(br.readLine());
    }
    public void put()
    {
        System.out.println("Name="+name);
        System.out.println("no of innings="+inning);
        System.out.println("no times
        notout="+tofnotout);
        System.out.println("total runs="+totalruns);
        System.out.println("bat avg="+batavg);
    }
    static void avg(int n, Cricket c[])
    {
        try
        {
            for(int i=0;i<n;i++)
            {
                c[i].batavg=c[i].totalruns/c[i].inning;
            }
        }
        catch(ArithmeticException e)
        {
            System.out.println("Invalid arg");
        }
    }
    static void sort(int n, Cricket c[]){
        String temp1;
        int temp2,temp3,temp4;
        float temp5;
        for(int i=0;i<n;i++)
        {
            for(int j=i+1;j<n;j++)
            {

```

```

if(c[i].batavg<c[j].batavg)
{
temp1=c[i].name;
c[i].name=c[j].name;
c[j].name=temp1;
temp2=c[i].inning;
c[i].inning=c[j].inning;
c[j].inning=temp2;
temp3=c[i].tofnotout;
c[i].tofnotout=c[j].tofnotout;
c[j].tofnotout=temp3;
temp4=c[i].totalruns;
c[i].totalruns=c[j].totalruns;
c[j].totalruns=temp4;
temp5=c[i].batavg;
c[i].batavg=c[j].batavg;
c[j].batavg=temp5;
}
}
}
}
}
class calculate
{
public static void main(String args[])throws
IOException
{
BufferedReader br=new BufferedReader(new
InputStreamReader(System.in));
System.out.println("Enter the limit:");
int n=Integer.parseInt(br.readLine());
Cricket c[]=new Cricket[n];
for(int i=0;i<n;i++)
{
c[i]=new Cricket();
c[i].get();
}
}
Cricket.avg(n,c);
Cricket.sort(n, c);
for(int i=0;i<n;i++){
c[i].put();
}
}
}

```

---

### ##Slip 13 Q2) & slip 14 Q1).

```

import java.util.Scanner;
public class menudriven
{
public static void main(String[] args)
{
int choice;//for storing users choice
double radius;
double height;
double volume;
Scanner sc=new Scanner(System.in);//Creating
object of the scanner class
//displaying the menu
System.out.println("1:Volume of cylinder");
System.out.println("2:Factorial of number");
System.out.println("3:Number is armstrong or
not");
System.out.println("4:Exit");
lp : while(true)//labelling the while loop
{
System.out.println("Make your choice");
choice=sc.nextInt();//reading users choice
switch(choice)
{
case 1:
//take input from the user
//create an instance of the scanner class
Scanner s=new Scanner(System.in);
System.out.println("Enter the radius:");
radius=s.nextDouble();
System.out.println("Enter the height:");
height=s.nextDouble();
volume=(22*(radius*radius)*height/7);
System.out.println("volume of cylinder
is:"+volume);
break;
case 2:
Scanner a=new Scanner(System.in);
System.out.println("Enter the number:");
int num=a.nextInt();
int i=1,fact=1;
while(i<=num)
{
fact=fact*i;
i++;
}
System.out.println("Factorial of the
number:"+fact);
break;
case 3:
int temp,totalDigit=0,res=0,rem,pow;
Scanner b=new Scanner(System.in);
System.out.println("Enter the number:");
num=b.nextInt();
temp=num;
while(num>0)
{

```

```

num=num/10;
totalDigit++;
}
num=temp;
while(num>0)
{
rem=num%10;
pow=1;
i=0;
while(i<totalDigit)
{
pow=pow*rem;
i++;
}
res=res+pow;
num=num/10;
}
if(res==temp)
System.out.println("\n Armstrong number:");
else
System.out.println("\n Not an Armstrong
number:");
break;
case 4: System.out.println("EXIT");
break;
}
}
}
}
}

```

---

## ##Slip 15

### Q2).

```

import java.util.Scanner;
@FunctionalInterface
interface CubeCalculator{
    public void print(int num1);
}
public class Cube{
    public static void main(String[] args){

        CubeCalculator p=n-
>System.out.println("Cube is : "+n*n*n);
        p.print(5);
    }
}
import java.io.*;
class Cricket
{
    String name;
    int inning, tofnotout, totalruns;
    float batavg;
    public Cricket()
    {
        name=null;
        inning=0;
        tofnotout=0;
        totalruns=0;
        batavg=0;
    }
    public void get() throws IOException
    {
        BufferedReader br=new BufferedReader(new
        InputStreamReader(System.in));
        System.out.println("Enter the name, no of
        innings, no of times not out, total runs: ");
        name=br.readLine();
        inning=Integer.parseInt(br.readLine());
        tofnotout=Integer.parseInt(br.readLine());
        totalruns=Integer.parseInt(br.readLine());
    }
    public void put()
    {
        System.out.println("Name="+name);
        System.out.println("no of innings="+inning);
        System.out.println("no times
        notout="+tofnotout);
        System.out.println("total runs="+totalruns);
        System.out.println("bat avg="+batavg);
    }
    static void avg(int n, Cricket c[])
    {
        try
        {
            for(int i=0;i<n;i++)
            {
                c[i].batavg=c[i].totalruns/c[i].inning;
            }
        }
    }
}

```



```

    }
    catch(ArithmeticException e)
    {
        System.out.println("Invalid arg");
    }
}

static void sort(int n, Cricket c[]){
    String temp1;
    int temp2,temp3,temp4;
    float temp5;
    for(int i=0;i<n;i++)
    {
        for(int j=i+1;j<n;j++)
        {
            if(c[i].batavg<c[j].batavg)
            {
                temp1=c[i].name;
                c[i].name=c[j].name;
                c[j].name=temp1;
                temp2=c[i].inning;
                c[i].inning=c[j].inning;
                c[j].inning=temp2;
                temp3=c[i].tofnotout;
                c[i].tofnotout=c[j].tofnotout;
                c[j].tofnotout=temp3;
                temp4=c[i].totalruns;
                c[i].totalruns=c[j].totalruns;
                c[j].totalruns=temp4;
                temp5=c[i].batavg;
                c[i].batavg=c[j].batavg;
                c[j].batavg=temp5;
            }
        }
    }
}

class calculate
{
    public static void main(String args[])throws IOException
    {
        BufferedReader br=new BufferedReader(new
        InputStreamReader(System.in));
        System.out.println("Enter the limit:");
        int n=Integer.parseInt(br.readLine());
        Cricket c[]=new Cricket[n];
        for(int i=0;i<n;i++)
        {
            c[i]=new Cricket();
            c[i].get();
        }
        Cricket.avg(n,c);
        Cricket.sort(n, c);
        for(int i=0;i<n;i++){
            c[i].put();
        }
    }
}

```

```

}

```

---

**##Slip 18  
Q2)**

```

import java.io.*;
class CovidException extends Exception{
    public CovidException(){
        System.out.println("Patient is Covid Positive and
        needs to be hospitalized");
    }
}

class Patient{
    String name;
    int age;
    double level,hrcrt;
    public Patient(String name,int age,double
    level,double hrct)
    {
        this.name=name;
        this.age=age;
        this.level=level;
        this.hrct=hrct;
    }
    public static void main(String[] args)throws
    IOException
    {
        String name;
        int age;
        double level,hrcrt;
        BufferedReader br=new BufferedReader(new
        InputStreamReader(System.in));
        System.out.println("Enter name: ");
        name=br.readLine();
        System.out.println("Enter the age: ");
        age=Integer.parseInt(br.readLine());
        System.out.println("Oxygen level: ");
        level=Double.parseDouble(br.readLine());
        System.out.println("HRCT report: ");
        hrct=Double.parseDouble(br.readLine());
        Patient ob=new Patient(name,age,level,hrct);
        try{
            if(ob.level<95 && ob.hrct>10)
                throw new CovidException();
            else
                System.out.println("Patient Info: \n"+"Name:
                "+ob.name+"\nAge: "+ob.age+"\nHRCT
                report: "+ob.hrct+"\nOxygen level:"
                +ob.level);
        }catch(CovidException e){
        }
    }
}

```

---

**##Slip 19****Q1)**

```

import java.io.*;
import java.util.*;
class SetAq2
{
    public static void main(String[] args) throws
    IOException
    {
        FileReader file=new FileReader("a.txt");
        Scanner sc=new Scanner(file);
        String s;
        while(sc.hasNext())
        {
            StringBuffer sb=new StringBuffer();
            s=sc.next();
            String s1=s.toUpperCase();
            sb.append(s1);
            sb.reverse();
            System.out.println(sb);
        }
    }
}

```

---

**##Slip 19 Q2). & Slip 21 Q1).**

```

import java.io.BufferedReader;
import java.io.IOException;
import java.io.InputStreamReader;
abstract class Staff{
    String name,address;
}
class FullTimeStaff extends Staff{
    String department;
    double salary;
    public void accept() throws IOException{
        System.out.println("Enter the name, address,
        department and salary: ");
        BufferedReader br=new BufferedReader(new
        InputStreamReader(System.in));
        name=br.readLine();
        address=br.readLine();
        department=br.readLine();
        salary=Double.parseDouble(br.readLine());
    }
    public void display(){
        System.out.println("Name: "+name);
        System.out.println("Address: "+address);
        System.out.println("Department:
        "+department);
        System.out.println("Salary: "+salary);
        System.out.println("-----");
    }
}
class PartTimeStaff extends Staff{
    int hours, rate;
    public void accept() throws IOException{

```

```

        System.out.println("Enter the name, address,
        No of working hours and rate per hour: ");
        BufferedReader br=new BufferedReader(new
        InputStreamReader(System.in));
        name=br.readLine();
        address=br.readLine();
        hours=Integer.parseInt(br.readLine());
        rate=Integer.parseInt(br.readLine());
    }
    public void display(){
        System.out.println("Name: "+name);
        System.out.println("Address: "+address);
        System.out.println("No of Working Hours:
        "+hours);
        System.out.println("Rate per hour: "+rate);
        System.out.println("-----");
    }
}
class stafftime{
    public static void main(String [] args) throws
    IOException{
        int i;
        System.out.println("Select Any One: ");
        BufferedReader br=new BufferedReader(new
        InputStreamReader(System.in));
        System.out.println("1.Full Time Staff");
        System.out.println("2.Part Time Staff");
        int ch=Integer.parseInt(br.readLine());
        switch(ch){
            case 1:
                System.out.println("Enter the number of Full
                Time Staff: ");
                int n=Integer.parseInt(br.readLine());
                FullTimeStaff [] l=new FullTimeStaff[n];
                for(i=0;i<n;i++){
                    l[i]=new FullTimeStaff();
                    l[i].accept();
                }
                for(i=0;i<n;i++){
                    l[i].display();
                }
                break;
            case 2:
                System.out.println("Enter the number of Part
                Time Staff: ");
                int m=Integer.parseInt(br.readLine());
                PartTimeStaff [] h=new PartTimeStaff[m];
                for(i=0;i<m;i++){
                    h[i]=new PartTimeStaff();
                    h[i].accept();
                }
                for(i=0;i<m;i++){
                    h[i].display();
                }
                break;
        }
    }
}

```

```
}
```

### ##Slip 20 Q2)

```
import java.io.*;
import java.util.*;
class Seta3{
public static void main(String[] args)throws
IOException
{
int c;
String f1,f2;
Scanner sc=new Scanner(System.in);
System.out.println("Enter name of first file: ");
f1=sc.next();
System.out.println("Enter name of second file:
");
f2=sc.next();
FileReader fr=new FileReader(f1);
FileWriter fw=new FileWriter(f2,true);
while((c=fr.read())!=-1)
{
fw.write(c);
}
fw.append("\nEND OF FILE");
fr.close();
fw.close();
}
}
```

### ##Slip 21 Q2).

```
import java.io.*;
import java.util.*;
class Setb1{
public static void main(String[] args)throws
IOException
{
String name,line;
int cost=0,ch,flag=0,i,tcost=0;
BufferedReader br=new BufferedReader(new
InputStreamReader(System.in));
File f=new File("book.dat");
RandomAccessFile rf=new
RandomAccessFile(f,"rw");
do{
System.out.println("MENU");
System.out.println("1.Search\n2.Display book
and total cost");
System.out.println("Enter your choice: ");
ch=Integer.parseInt(br.readLine());
switch(ch)
{
case 1:
rf.seek(0);
System.out.println("Enter book name to search:
");
name=br.readLine();
while(rf.getFilePointer()!=f.length())
{
line=rf.readLine();
String a[]=line.split(" ");
if(a[1].equals(name))
{
System.out.println("Book available");
flag=1;
break;
}
else
flag=2;
}
if(flag==2)
System.out.println("Book Unavailable");
break;
case 2:
rf.seek(0);
while(rf.getFilePointer()!=f.length())
{
line=rf.readLine();
String a[]=line.split(" ");
cost=cost+(Integer.parseInt(a[2])*Integer.parsel
nt(a[3]));
System.out.println(a[1]+"\\t"+cost);
tcost=tcost+(Integer.parseInt(a[2])*Integer.parsel
ent(a[3]));
}
System.out.println("Total cost\\t"+tcost);
```

```

break;
}
}while(ch!=2);
}
}

```

---

### ##Slip 22 Slip 24 & Slip 26 & Slip 30 Q1).

```

import java.util.Scanner;
@FunctionalInterface
interface CubeCalculator{
    public void print(int num1);
}
public class Cube{
    public static void main(String[] args){

        CubeCalculator p=n-
>System.out.println("Cube is : "+n*n*n);
        p.print(5);
    }
}

```

---

### Slip 22 & Slip 30 Q2).

```

import java.io.*;
class InvalidUsernameException extends
Exception{
    public InvalidUsernameException(){
        System.out.println("Invalid Username");
    }
}
class InvalidPasswordException extends
Exception{
    public InvalidPasswordException(){
        System.out.println("Invalid Password");
    }
}
class EmailId{
    String uname,pwd;
    public EmailId()
    {
        uname="";
        pwd="";
    }
    public EmailId(String uname,String pwd)
    {
        this.uname=uname;
        this.pwd=pwd;
    }
    public static void main(String[] args)
    {
        String uname,pwd;
        uname=args[0];
        pwd=args[1];
        EmailId ob=new EmailId(uname,pwd);
        try{
            if(("preranasherla").equals(ob.uname))
                System.out.println("Valid Username");
            else
                throw new InvalidUsernameException();
        }catch(InvalidUsernameException e){ }
        try{
            if(("prerana1234").equals(ob.pwd))
                System.out.println("Valid Password");
        }
    }
}

```

```

else
throw new InvalidPasswordException();
}catch(InvalidPasswordException e1){ }
}
}

```

---

### ##Slip 23

#### Q2).

```

import java.io.*;
class invaliddatetimeexception extends Exception
{
invaliddatetimeexception(int n)
{
System.out.println("The given date is invalid");
}
}
class invalidmonthexception extends Exception
{
invalidmonthexception(int m)
{
System.out.println("The given month is invalid");
}
}
class Date
{
public static void main(String args[])
{
int dd=Integer.parseInt(args[0]);
int mm=Integer.parseInt(args[1]);
long yy=Long.parseLong(args[2]);
try
{
if(mm<1 || mm>12)
throw new invalidmonthexception(mm);
}
catch(invalidmonthexception e)
{
}
{
if(mm>=1 && mm<=12)
{
switch(mm)
{
case 1:
case 3:
case 5:
case 7:
case 8:
case 10:
case 12:
try
{
if(dd>=1 && dd<=31)
System.out.println("The given Date is Valid");
else
throw new invaliddatetimeexception(dd);
}
catch(invaliddatetimeexception e)
{
}
break;
case 4:
case 6:

```

```

case 9:
case 11:
try
{
if(dd>=1 && dd<=30)
System.out.println("The given date valid one");
else
throw new invaliddateexception(dd);
}
catch(invaliddateexception e)
{
}
break;
case 2:
try
{
if(yy%4==0 || yy%100==0)
{
if(dd>=1 && dd<=29)
System.out.println("The date is valid and it is a
leap year");
}
else if(dd>=1 && dd<=28)
System.out.println("The given date is valid");
else
throw new invaliddateexception(dd);
}
catch(invaliddateexception e)
{
}
break;
}
}
}
}
}
}
}

```

---

```

##Slip 24
Q2).
import java.awt.*;
import java.awt.event.*;
import javax.swing.*;
public class Calculator
extends JFrame implements ActionListener
{
    JTextField tf1;

    JButton b[] = new JButton[10], bmult, bdiv, badd, bsub,
    bequal, bdot;
    JPanel p1, p2;
    char opr;
    // int num1, num2;
    // int ans = 0;
    // boolean int_float_flag = false;
    String num = "";
    double fnum1, fnum2, fans;
    Calculator()
    {
        tf1 = new JTextField();
        for (int i = 0; i < 10; i++)
        {
            b[i] = new JButton(Integer.toString(i));
            b[i].addActionListener(this);
        }
        bmult = new JButton("*");
        bdiv = new JButton("/");
        badd = new JButton("+");
        bsub = new JButton("-");
        bequal = new JButton("=");
        bdot = new JButton(".");

        bmult.addActionListener(this);
        bdiv.addActionListener(this);
        badd.addActionListener(this);
        bsub.addActionListener(this);
        bequal.addActionListener(this);
        bdot.addActionListener(this);

        p1 = new JPanel();
        p1.setLayout(new GridLayout(1, 1));
        p1.add(tf1);

        p2 = new JPanel();
        p2.setLayout(new GridLayout(4, 4));

        for (int i = 1; i <= 3; i++)
            p2.add(b[i]);
        p2.add(badd);

        for (int i = 4; i <= 6; i++)
            p2.add(b[i]);
        p2.add(bsub);

        for (int i = 7; i <= 9; i++)

```

```

        p2.add(b[i]);
        p2.add(bmult);

        p2.add(b[0]);
        p2.add(bdot);
        p2.add(bequal);
        p2.add(bdiv);

        setLayout(new BorderLayout());
        add(p1, BorderLayout.NORTH);
        add(p2, BorderLayout.CENTER);

        setTitle("Simple Calculator ");
        setSize(500,400);
        setVisible(true);

        setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
    }
    public void actionPerformed(ActionEvent ae)
    {
        JButton tb=(JButton)ae.getSource();

        if(tb==b[0])
        {
            num=num+"0";
            tf1.setText(num);
            /* if(tf1.getText()=="0" || tf1.getText()=="0.0")
            num="";
            int n=Integer.parseInt(num);
            tf1.setText(Integer.toString(n));
            */
        }
        if(tb==b[1])
        {
            num=num+"1";
            tf1.setText(num);
        }
        if(tb==b[2])
        {
            num=num+"2";
            tf1.setText(num);
        }
        if(tb==b[3])
        {
            num=num+"3";
            tf1.setText(num);
        }
        if(tb==b[4])
        {
            num=num+"4";
            tf1.setText(num);
        }
        if(tb==b[5])
        {
            num=num+"5";
            tf1.setText(num);

```

```

        }
        if(tb==b[6])
        {
            num=num+"6";
            tf1.setText(num);
        }
        if(tb==b[7])
        {
            num=num+"7";
            tf1.setText(num);
        }
        if(tb==b[8])
        {
            num=num+"8";
            tf1.setText(num);
        }
        if(tb==b[9])
        {
            num=num+"9";
            tf1.setText(num);
        }

        if(tb==badd)
        {
            String tempNum=tf1.getText();
            if(tempNum.contains("."))
                fnum1=Double.parseDouble(tf1.getText());

            else
                fnum1=Integer.parseInt(tf1.getText());
            opr='+';
            num="";
        }
        if(tb==bsub)
        {
            String tempNum=tf1.getText();
            if(tempNum.contains("."))
                fnum1=Double.parseDouble(tf1.getText());

            else
                fnum1=Integer.parseInt(tf1.getText());
            opr='-';
            num="";
        }
        if(tb==bmult)
        {
            String tempNum=tf1.getText();
            if(tempNum.contains("."))
                fnum1=Double.parseDouble(tf1.getText());

            else
                fnum1=Integer.parseInt(tf1.getText());
            opr='*';
            num="";
        }
    }

```

```

        if(tb==bdiv)
        {
            String tempNum=tf1.getText();
            if(tempNum.contains("."))
            fnum1=Double.parseDouble(tf1.getText());

            else
            fnum1=Integer.parseInt(tf1.getText());
            opr='/';
            num="";

        }
        if(tb==bdot)
        {
            num=num+".";
            tf1.setText(num);
        }
        if(tb==bequal)
        {
            String tempNum=tf1.getText();
            if(tempNum.contains("."))
            fnum2=Double.parseDouble(tf1.getText());
            else
            {
                fnum2=Integer.parseInt(tf1.getText());
            }
            num="";
            if(opr=='+')
            fans=fnum1+fnum2;
            elseif(opr=='-')
            fans=fnum1-fnum2;
            elseif(opr=='*')
            fans=fnum1*fnum2;
            elseif(opr=='/')
            {
                if(fnum2==0)
                {
                    tf1.setText("ERROR: Divide By Zero");
                    return;
                }
                else
                fans=fnum1/fnum2;
            }
            tf1.setText(Double.toString(fans));
        }
    }
    public static void main(String args[])
    {
        new Calculator();
    }
}

```

---

## ##Slip 26 Q2).

```

import java.awt.event.*;
import javax.swing.*;
import java.awt.*;

public class HobbiesDemo extends JFrame
implements ActionListener, ItemListener
{
    JLabel l1,l2,l3,l4,l5;
    JTextField tf1;
    JRadioButton rb1,rb2,rb3;
    ButtonGroup bg;
    JCheckBox cb1,cb2,cb3;
    JPanel p1,p2,p3,p4;
    HobbiesDemo()
    {
        l1=new JLabel("Your Name : ");
        l2=new JLabel("Your Class ");
        l3=new JLabel("Your Hobbies");
        l4=new JLabel(""); //used to display name &
        class
        l5=new JLabel(""); //used to display hobbies

        tf1=new JTextField();

        rb1=new JRadioButton("FYBCS");
        rb2=new JRadioButton("SYBCS");
        rb3=new JRadioButton("TYBCS");
        rb1.addActionListener(this);
        rb2.addActionListener(this);
        rb3.addActionListener(this);

        bg=new ButtonGroup();
        bg.add(rb1);
        bg.add(rb2);
        bg.add(rb3);

        cb1=new JCheckBox("Music");
        cb2=new JCheckBox("Dance");
        cb3=new JCheckBox("Sports");
        cb1.addItemListener(this);
        cb2.addItemListener(this);
        cb3.addItemListener(this);

        p1=new JPanel();
        p1.setLayout(new GridLayout(1,2));
        p1.add(l1); p1.add(tf1);

        p2=new JPanel();
        p2.setLayout(new GridLayout(4,1));
        p2.add(l2);
        p2.add(rb1);
        p2.add(rb2);
        p2.add(rb3);

        p3=new JPanel();
        p3.setLayout(new GridLayout(4,1));

```



```

p3.add(l3);
p3.add(cb1);
p3.add(cb2);
p3.add(cb3);

p4=new JPanel();
p4.setLayout(new GridLayout(1,2));
p4.add(l4);
p4.add(l5);

BorderLayout bob=new BorderLayout();
setLayout(bob);

add(p1,BorderLayout.NORTH);
add(p2,BorderLayout.WEST);
add(p3,BorderLayout.EAST);
add(p4,BorderLayout.SOUTH);

setTitle("INFORMATION");
setSize(500,300);
setVisible(true);
setDefaultCloseOperation(EXIT_ON_CLOSE);

}
public void actionPerformed(ActionEvent ae)
{
    String s="NAME : "+tf1.getText()+" CLASS : "+ae.getActionCommand();
    l4.setText(s);
}
public void itemStateChanged(ItemEvent ie)
{
    String s="";

    if(cb1.isSelected())
        s=s+cb1.getText()+" ";
    if(cb2.isSelected())
        s=s+cb2.getText()+" ";
    if(cb3.isSelected())
        s=s+cb3.getText()+" ";
    l5.setText(" HOBBIES : "+s);
}

public static void main(String args[])
{
    HobbiesDemo hob=new HobbiesDemo();
}
}

```

---