```
##Slip 1 & Slip 11 & Slip 23 & Silp 25 & Slip 29
                                                    description=br.readLine();
                                                    Customername=br.readLine();
Q1).
import java.io.*;
                                                    Vendorname=br.readLine();
class area
                                                    public void display(){
                                                    System.out.println("id: "+id);
public static void main(String args[])
                                                    System.out.println("Description: "+description);
                                                    System.out.println("Customername:
int a,b,c,d,perimeter,area;
                                                    "+Customername);
a=c=5;
b=d=2;
                                                    System.out.println("Vendorname:
area=a*b;
                                                    "+Vendorname);
perimeter=2*(a+b);
                                                    System.out.println("----");
System.out.println("Area of rectangle="+area);
                                                    }
System.out.println("Area of
                                                    }
perimeter="+perimeter);
                                                    class Main {
                                                    public static void main(String [] args) throws
                                                    IOException{
##Slip 1 & slip 16
                                                    System.out.println("Select Any One: ");
Q2).
import java.io.BufferedReader;
                                                    BufferedReader br=new BufferedReader(new
                                                    InputStreamReader(System.in));
import java.io.IOException;
                                                    System.out.println("1.Purchase Order");
import java.io.InputStreamReader;
                                                    System.out.println("2.Sales Order");
abstract class Order{
String id, description;
                                                    int ch=Integer.parseInt(br.readLine());
                                                    switch(ch){
class PurchaseOrder extends Order{
                                                    case 1:
                                                    System.out.println("Enter the number of
String Customername, Vendorname;
public void accept() throws IOException{
                                                    purchase Orders: ");
                                                    int n=Integer.parseInt(br.readLine());
System.out.println("Enter the
                                                    PurchaseOrder[] l=new PurchaseOrder[n];
id, description, names of customers and vendors:
");
                                                    for(i=0;i< n;i++){
BufferedReader br=new BufferedReader(new
                                                    I[i]=new PurchaseOrder();
InputStreamReader(System.in));
                                                    I[i].accept();
id=br.readLine();
description=br.readLine();
                                                    for(i=0;i<n;i++){
Customername=br.readLine();
                                                    I[i].display();
                                                    System.out.println ("Object is created");
Vendorname=br.readLine();
                                                    break;
public void display(){
System.out.println("id: "+id);
                                                    case 2:
System.out.println("Description: "+description);
                                                    System.out.println("Enter the number of sales
                                                    orders: ");
System.out.println("Customername:
"+Customername);
                                                    int m=Integer.parseInt(br.readLine());
System.out.println("Vendorname:
                                                    SalesOrder[] h=new SalesOrder[m];
"+Vendorname);
                                                    for(i=0;i<m;i++){
                                                    h[i]=new SalesOrder();
System.out.println("----");
                                                    h[i].accept();
                                                    }
                                                    for(i=0;i<m;i++){
class SalesOrder extends Order{
String Customername, Vendorname;
                                                    h[i].display();
                                                    System.out.println(" Object is created ");
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();

##Slip 2 & Slip 18	{
Q1).	ob[i].display();
import java.util.Scanner;	}
public class Employee {	}
int id;	}
String name;	##Slip 2 & Slip 17
String deptname;	Q2).
float salary;	import java.util.Scanner;
static int numberofobjects=0;	class Product implements Cloneable
Employee(){	{
id=0;	int pid;
name="";	String pname;
deptname="";	double pcost;
salary=0;	//Product class constructor
}	public Product (int pid, String pname, double
Employee(int id,String name,String	pcost)
deptname,float salary){	{
this.id=id;	this.pid = pid;
this.name=name;	this.pname = pname;
this.deptname=deptname;	this.pcost = pcost;
this.salary=salary;	}
numberofobjects++;	//method that prints the detail on the console
}	public void showDetail()
public void display(){	{
System.out.println("Employee Id :"+id);	System.out.println("Product ID: "+pid);
System.out.println("Employee name: "+name);	System.out.println("Product Name: "+pname);
System.out.println("Employee Department:	System.out.println("Product Cost: "+pcost);
"+deptname);	}
System.out.println("Employee Salary :"+salary);	public static void main (String args[]) throws
}	CloneNotSupportedException
<pre>public static void main(String[] args){</pre>	{
int n=0;	//reading values of the product from the user
Scanner sc=new Scanner(System.in);	Scanner sc = new Scanner(System.in);
System.out.print("How many employees you	System.out.print("Enter product ID: ");
want to enter:");	int pid = sc.nextInt();
n=sc.nextInt();	System.out.print("Enter product name: ");
Employee[] ob=new Employee[n];	String pname = sc.next();
for(int i=0;i <n;i++){< td=""><td>System.out.print("Enter product Cost: ");</td></n;i++){<>	System.out.print("Enter product Cost: ");
sc= new Scanner(System.in);	double pcost = sc.nextDouble();
System.out.println("Enter Id of employee "+(i+1)+" :");	System.out.println("Product Detail");
int id=sc.nextInt();	Product p1 = new Product(pid, pname, pcost);
System.out.println("Enter Name of employee	//cloning the object of the Product class using the clone() method
"+(i+1)+" :");	Product p2 = (Product) p1.clone();
sc.nextLine();	//invoking the method to print detail
String name= sc.nextLine();	p2.showDetail();
System.out.println("Enter dept name of	}
employee "+(i+1)+" :");	}
String deptname=sc.nextLine();	· <u>'</u>
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++)< td=""><td></td></n;i++)<>	

```
##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++)</pre>
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 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
                                                    String str="";
Q1).
                                                    JTextArea ta;
import java.text.ParseException;
                                                    Container c;
import java.text.SimpleDateFormat;
                                                    Int x,y;
import java.util.Date;
                                                    MouseEvents()
import java.util.Locale;
public class Newclass {
public static void main(String[] args) {
                                                    c=getContentPane();
                                                    c.setLayout(new FlowLayout());;
Date date = new Date();
SimpleDateFormat formatter = new
                                                    ta=new JTextArea("Click the mouse or move it",
SimpleDateFormat("dd/MM/yyyy");
                                                    ta.setFont(new Font("Arial",Font.BOLD,30));
String strDate = formatter.format(date);
System.out.println("Current date is: "+strDate);
                                                    c.add(ta);
formatter = new SimpleDateFormat("MM-dd-
                                                    ta.addMouseListener(this);
                                                    ta.addMouseMotionListener(this);
yyyy");
strDate = formatter.format(date);
                                                    public void mouseClicked(MouseEvent me)
System.out.println("Current date is: "+strDate);
formatter = new SimpleDateFormat("EEEEEE
                                                    int i=me.getButton();
MMMM dd yyyy");
                                                    if(i==1)
strDate = formatter.format(date);
                                                    str+="Clicked Button: Left";
System.out.println("Current date is: "+strDate);
                                                    else if(i==2)
formatter = new SimpleDateFormat("E MMMM
                                                    str+="Clicked Button: Middle";
dd HH:mm:ss z yyyy");
                                                    else if(i==3)
strDate = formatter.format(date);
                                                    str+="Clicked Button: Right";
System.out.println("Current date and time is:
                                                    this.display();
"+strDate);
formatter = new SimpleDateFormat("dd/MM/yy
                                                    public void mouseEntered(MouseEvent me)
HH:mm:ss a Z");
strDate = formatter.format(date);
System.out.println("Current date and time is:
                                                    str+="Mouse Entered";
"+strDate):
                                                    this.display();
formatter = new
                                                    public void mouseExited(MouseEvent me)
SimpleDateFormat("hh:mm:ss");
strDate = formatter.format(date);
                                                    }
System.out.println("Current time is: "+strDate);
                                                    str+="MouseExited";
formatter = new SimpleDateFormat("w");
                                                    this.display();
strDate = formatter.format(date);
                                                    public void mousePressed(MouseEvent me)
System.out.println("Current week of year is:
"+strDate);
formatter = new SimpleDateFormat("W");
                                                    x=me.getX();
strDate = formatter.format(date);
                                                    y=me.getY();
                                                    str+="MousePressed at: "+x+"\t"+y;
System.out.println("Current week of the month
is: "+strDate);
                                                    this.display();
formatter = new SimpleDateFormat("D");
                                                    public void mouseReleased(MouseEvent me)
strDate = formatter.format(date);
System.out.println("Current day of the year:
                                                    x=me.getX();
"+strDate);
                                                    y=me.getY();
                                                    str+="Mouse Released at:"+x+"\t"+y;
}
                                                    this.display();
##Slip 4 & Slip 25 & Slip 29
Q2).
                                                    public void mouseDragged(MouseEvent me)
Import java.awt.*;
Import java.awt.event.*;
                                                    x=me.getX();
Import javax.swing.*;
Class MouseEvents extends JFrame implements
                                                    y=me.getY();
MouseListener, MouseMotionListener
                                                    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
                                                     nametext.setText("");
Q2).
                                                     passtext.setText("");
import java.awt.*;
import java.awt.event.*;
class InvalidPasswordException extends
Exception
                                                     try
                                                     {
InvalidPasswordException()
System.out.println(" User name and Password is
not same");
                                                     msg.setText("Valid");
                                                     }
public class PasswordDemo extends Frame
implements ActionListener
                                                     else
{
                                                     {
Label uname, upass;
TextField nametext;
TextField passtext,msg;
                                                     catch(Exception e)
Button login, Clear;
Panel p;
                                                     msg.setText("Error");
int attempt=0;
char c= ' * ';
                                                     attempt++;
public void login()
p=new Panel();
uname=new Label("Use Name: ",Label.CENTER);
                                                     else
upass=new Label ("Password: ",Label.RIGHT);
nametext=new TextField(20);
passtext = new TextField(20);
                                                     System.exit(0);
passtext.setEchoChar(c);
msg=new TextField(10);
msg.setEditable(false);
login=new Button("Login");
Clear=new Button("Clear");
login.addActionListener(this);
                                                     pd.login();
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")
if((btn.getLabel()).equals("Login"))
String user=nametext.getText();
String upass=passtext.getText();
if(user.compareTo(upass)==0)
System.out.println("Username is valid");
throw new InvalidPasswordException();
System.out.println("you are using 3 attempt");
public static void main(String args[])
PasswordDemo pd=new PasswordDemo();
```

```
##Slip 6 & slip15 & slip28
                                                      // Loop to take array elements as user input for
Q1).
                                                      first matrixn i.e mat1
import java.io.*;
                                                      for(row=0;row<3;row++)</pre>
class sort
                                                      for(col=0;col<3;col++)
                                                      mat1[row][col] = scan.nextInt();
public static void main(String[] args) throws
                                                      //print the elements of first matrix i.e mat1
                                                      System.out.print("1st matrix:");
IOException
                                                      for(row=0;row<3;row++)
{
BufferedReader br= new BufferedReader(new
InputStreamReader(System.in));
                                                      // Used for formatting
int [] arr=new int[5];
                                                      System.out.print("\n");
for(int i=0;i<5;i++) //Array Initialization
                                                      for(col=0;col<3;col++)
arr[i]=Integer.parseInt(br.readLine());
                                                      System.out.print(mat1[row][col]+" ");
int temp = 0; //Temporary variable to store the
                                                      }
                                                      //Entering second matrix
element
for (int i = 0; i < 5; i++) //Holds each Array
                                                      System.out.println("\nEnter the 3x3 matrix
element
                                                      elements for 2nd matrix: ");
                                                      // Loop to take array elements as user input for
for (int j = i+1; j < 5; j++) //compares with
                                                      second matrix
remaining Array elements
                                                      for(row=0;row<3;row++)
                                                      for(col=0;col<3;col++)
if(arr[i] > arr[j]) //Compare and swap
                                                      mat2[row][col] = scan.nextInt();
                                                      //print the elements of second matrix i.e mat2
                                                      System.out.print("2nd matrix:");
temp = arr[i];
arr[i] = arr[j];
                                                      for(row=0;row<3;row++)
arr[j] = temp;
                                                      // Used for formatting
                                                      System.out.print("\n");
                                                      for(col=0;col<3;col++)
System.out.println();
//Displaying elements of array after sorting
                                                      System.out.print(mat2[row][col]+" ");
System.out.println("Elements of array sorted in
ascending order: ");
for (int i = 0; i < 5; i++)
                                                      int res[][] = new int[3][3], operationHolder = 0;
                                                      int choice;
                                                      while(true)
System.out.print(arr[i] + " ");
                                                      //Prints the menu to choose operation from
                                                      System.out.println("\n\nBASIC MATRIX
                                                      OPERATIONS");
##Slip 6 & Slip 28
                                                      System.out.println("_
Q2).
                                                       _");
                                                      System.out.println("1. Addition of two
import java.util.Scanner;
public class multidimensional{
                                                      matrices");
                                                      System.out.println("2. Subtraction of two
public static void main(String args[])
                                                      matrices");
                                                      System.out.println("3. Multiplication of two
//Scanner class to take input
Scanner scan = new Scanner(System.in);
                                                      matrices");
                                                      System.out.println("4. Transpose");
int row, col;
                                                      System.out.println("5. Exit");
int mat1[][] = new int[3][3];
                                                      System.out.println("
int mat2[][] = new int[3][3];
                                                      _");
//Entering first matrix
                                                      System.out.println("Enter your choice : ");
System.out.println("Enter the 3x3 matrix
elements for 1st matrix:");
                                                      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);
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++)</pre>
// 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;
}
```

ob[i].display(); import java.util.Scanner; } public class Employee { int id; } CQ2). String name; QQ2). String deptname; import java.io.*; float salary; static int numberofobjects=0; Employee(){ String name; String name;	##Slip 7	for(int i=0;i <n;i++)< th=""></n;i++)<>
import java util. Scanner; public class Employee { int id; String name; String deptname; float salary; static int numberofobjects=0; Employee(){	Q1).	{
public class Employee { init id; String name; Cu2). String deptname; float salary; static int numberofobjects=0; Employee(){ int inning, tofnotout, totalruns; float batavg; deptname=""; float batavg; public Cricket() salary=0; } mame=null; inning=0; defnout-0; totalruns=0; batavg=0; this.aleny=salary; unblic void dept() throws IOException unmberofobjects++; } public void display(){ System.out.println("Employee ld:"+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.println("Employee Solary:"+salary); } public static void main(String[] args){ int n=0; Scanner sc=new Scanner(System.in); System.out.println("Employee Solary:"+salary); } public void qut() System.out.println("Employee Solary:"+salary); } public static void main(String[] args){ int n=0; Scanner sc=new Scanner(System.in); System.out.println("Name="+name); System.out.println("Inter ald of employee want to enter:"); sc=new Scanner(System.in); System.out.println("Inter ald of employee well(+1)+":"); sc=new Scanner(System.in); System.out.println("Total runs="+totalruns); System.out.println("Total runs="+totalruns); System.out.println("Total runs="+totalruns); System.out.println("Total runs="+totalruns); System.out.println("Total runs="+totalruns); System.out.println("Total run		ob[i].display();
public class Employee { init id; String name; String feptname; float salary; static int numberofobjects=0; Employee(){ int inning, tofnotout, totalruns; float batavg; deptname=""; float batavg; public Cricket() aname=null; inning=0; defnotout=0; totalruns=0; batavg=0; this.dame=aname; this.alany=salary; unbelic void display(){	import java.util.Scanner;	}
String deptname; float salary; static int numberofobjects=0; Employee(){	public class Employee {	}
String deptname; float salary; static int numberofobjects=0; Employee(){ id=0; name=""; deptname=""; deptname=""; float batayg; deptname=""; deptname=""; deptname=""; deptname=null; inning=0; deptname,float salary }{ tofnotout=0; totalruns=0; batay=0; } this.deptname=deptname; this.deptname=subfleredReader(new InputStreamReader(System.in); System.out.printl("Erter the name, no of subtstreamReader(System.in); System.out.printl("Erter the name, no of subtstreamReader(System.in); system.out.printl("Erter deptname); tofnotout="usernamedefeptname;" this.deptname=strunce; thi	int id;	}
String deptname; float salary; static int numberofobjects=0; Employee(){ id=0; name=""; deptname=""; float batavg; deptname=""; float batavg; deptname=""; deptname=""; deptname=null; inning=0; deptname,float salary){ tofnotout=0; totalruns=0; batavg=0; this.dealary=salary; numberofobjects++; } BufferedReader br=new BufferedReader(new InputStreamReader(System.in)); System.out.printin("Employee lae": "+ladary); System.out.printin("Employee bepartment: "+deptname); System.out.printin("Employee bepartment: "+deptname); System.out.printin("Employee bepartment: "+deptname); System.out.printin("Employee Salary: "+salary); } System.out.printin("Enter Salary of Employee "+(i+1)+":"); String deptname=sc.nextLine(); System.out.printin("Imploatination of System.out.printin("Invalid arg"); System.out.printin("Invalid	String name;	Q2).
float salary; static int numberofobjects=0; Employee(){ id=0; name=""; adeptname=""; salary=0; } Employee(int id,String name,String deptname,float salary){ this.id=id; this.id=id; this.name=name; this.salary=salary; public void display(){ System.out.println("Employee lat :"+id); System.out.println("Employee Department: "-deptname); 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.println("Employee you want to enter :"); namesc.nextIn(); Employee[] ob=new Employee[n]; for(int i=0;kn;i++){ System.out.println("Enter ld of employee "+(i+1)+" :"); String name = sc.nextLine(); System.out.println("Enter valary of employee "+(i+1)+" :"); String deptname=sc.nextLine(); System.out.println("Enter dept name of employee "+(i+1)+" :"); float salary = sc.nextFloat(); ob[]=new Employee(d,name,deptname,salary); System.out.println("Invalid arg"); Syste		•
static in numberofobjects=0; Employee(){ id=0; name=""; deptname=""; salary=0; } Employee(int id,String name,String deptname,float salary) { this.deptname=nloat salary } this.name=name; this.name=name; this.deptname=deptname; this.deptname=deptname; this.deptname=deptname; this.deptname=deptname; this.deptname=deptname; this.salary-salary; public void display(){ System.out.println("Employee id :"+id); System.out.println("Employee name: "+name); System.out.println("Employee partment: "*deptname); 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.println("Employees you want to enter:"); n=sc.nextin(t); for(int i=0;kn;i++){ sc new Scanner(System.in); System.out.println("Enter Id of employee "*(i+i+)+":"); string amme; int inning, tofnotout, totalruns; batavg=0; totalruns=0; batavg=0; totalruns=nteger.parseint(br.readLine()); totalruns=nteger.parseint(br.readLine()); totalruns=integer.parseint(br.readLine()); totalruns=integer.parseint(br.readLine()); totalruns=integer.parseint(br.readLine()); totalruns=integer.parseint(br.readLine()); totalruns=integer.parseint(br.readLine()); totalruns=integer.parseint(br.readLine()); totalruns=integer.parseint(br.readLine()); totalruns=integer.parseint(br.readLine()); totalruns=integer.parseint(br.readLine()); System.out.println("no times not out. total runs:"); System.out.println("fotal runs="+		
Employee({\} int inning, tofnotout, totalruns; ind at batays; deptname=""; float batays; public Cricket() {		{
int inning, tofnotout, totalruns; float batavg; deptname=""; salary=0; } Employee(int id, String name, String deptname, float salary } Employee(int id, String name, String deptname, float salary } Employee(int id, String name, String deptname, float salary } Employee(int id, String name, String deptname, float salary } Employee(int id, String name, String deptname, float salary } Employee(int id, String name, String deptname, float salary } Employee(int id, String name, String deptname, float salary } Employee(int id, String name, String deptname, float salary } Employee(int id, String name, String deptname, float salary } Employee(int id, String name, String deptname, float salary } Employee(int id, String name, String deptname, float salary } Employee(int id, String name, String deptname, float salary salary; Employee(int id, String name, String deptname, float salary salary; Employee(int id, String name, String deptname, float salary salary; Employee(int id, String name, String deptname, float salary salary; Employee(int id, String name, String deptname, float salary salary; Employee(int id, String name, String deptname, float salary salary; Employee(int id, String name, String deptname, float salary salary; Employee(int id, String name, String deptname, float salary salary; Employee(int id, String name, salary); Employ		String name;
name=""; deptname=""; deptname=""; deptname=""; deptnames, float salary-0; } Employee(int id,String name,String deptname, float salary) { this.de=id; this.name=name; this.deptname, float salary } { tofnotout=0; totalruns=0; batay=0; } this.and=name; this.salary=salary; numberofobjects++; } public void display(){ System.out.println("Employee ld :"+id); System.out.println("Employee name: "+name); 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.println("Employee Salary:"+salary); } public void put() { System.out.println("Employee Salary:"+salary); } public void main(String[] args){ int n=0; Scanner sc=new Scanner(System.in); System.out.println("Employee Salary:"+salary); } public void main(String[] args){ int n=0; Scanner sc=new Scanner(System.in); System.out.println("Invame="+name); System.out.println("no of innings="+nning); System.out.println("no of innings="+nning); System.out.println("no times notout="+tofnotout); System.out.println("total runs="+totalruns); System.out.println("bat avg="+batayg); System.out.println("total runs="+totalruns); Syst	id=0;	_
deptname=""; salary=0; } Employee(int id,String name,String deptname,float salary){ tofnotout=0; tofnotout=float pane bufferedReader(new InputStreamReader(System.in)); System.out.println("Employee Department: "ndeptname); System.out.println("Employee Department: "ndeptname); System.out.println("Employee Salary :"+salary); System.out.println("How many employees you want to enter :"); n=sc.nextln(); System.out.println("Name="+name); System.out.println("Name="+name); System.out.println("Name="+name); System.out.println("no times notout:"+tofnotout); System.out.println("no times notout:"+tofnotout); System.out.println("Info times notout:"+tofnotout); System.out.println("Enter Id of employee "+(+1)+":"); int id=sc.nextline(); System.out.println("Enter Apare of employee "+(+1)+":"); String apme= sc.nextLine(); System.out.println("Enter dept name of employee "+(+1)+":"); String deptname-sc.nextLine(); System.out.println("Informalid arg"); System.out.println("Invalid arg"	name="";	
salary=0; } Employee(int id,String name,String	·	_
name=null;	-	{
Employee(int id, String name, String deptname, float salary) {	}	name=null:
deptname,float salary \{ this.id=id; this.name=name; this.name=name; this.deptname=deptname; this.salary=salary; numberofobjects++; } BufferedReader br=new BufferedReader(new InputStreamReader(System.in)); 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.printl("How many employees you want to enter:"); n=sc.nextInt(); Employee[] ob=new Employee[n]; for(int i=0;i <n;i++)\{ "+(i+1)+":");="" "+numberofobjects);="" "+numberofobjects]="" :="" arg");="" arg");<="" dept="" employee="" id="" name="" objects="" of="" salary="" sc="new" sc.nextint();="" scanner(system.in);="" system.out.println("enter="" system.out.println("invalid="" td="" tofinotout="0;"><td>Employee(int id.String name.String</td><td></td></n;i++)\{>	Employee(int id.String name.String	
this.id=id; this.name=name; this.deptname=deptname; batavg=0; this.name=name; this.deptname=deptname; } public void get() throws IOException {		_
this.name=name; this.deptname=deptname; this.salary=salary; numberofobjects++; } BufferedReader br=new BufferedReader(new InputStreamReader(System.in)); System.out.println("Employee Id:"+id); System.out.println("Employee name: "+name); System.out.println("Employee Department: "-deptname); System.out.println("Employee Salary:"+salary); System.out.println("Employee Salary:"+salary); } public static void main(String[] args){ int n=0; Scanner sc=new Scanner(System.in); System.out.printl"("How many employees you want to enter:"); p-sc.nextInt(); Employee[] ob=new Employee[n]; for(int i=0;i <n;i++){ employee<="" id="" of="" sc="new" scanner(system.in);="" system.out.println("enter="" td=""><td></td><td></td></n;i++){>		
this.deptname=deptname; this.salary=salary; numberofobjects++; } BufferedReader br=new BufferedReader(new InputStreamReader(System.in)); System.out.println("Employee Id:"+id); System.out.println("Employee name: "+name); System.out.println("Employee name: "+name); System.out.println("Employee Department: "-deptname); System.out.println("Employee Salary:"+salary); System.out.println("Employee Salary:"+salary); System.out.println("Employee Salary:"+salary); by public static void main(String[] args){ int n=0; Scanner sc=new Scanner(System.in); System.out.printl("How many employees you want to enter:"); n=sc.nextln(t); Semployee[] ob=new Employee[n]; for(int i=0;ixn;i++){ sc=new Scanner(System.in); System.out.println("Enter Id of employee "+(i+1)+":"); System.out.println("Enter Id of employee "+(i+1)+":"); String name= sc.nextLine(); String apmae= sc.nextLine(); String deptname=sc.nextLine(); System.out.println("Enter dept name of employee "+(i+1)+":"); System.out.println("Enter salary of employee "+(i+1)+":"); System.out.println("Invalid arg"); System.out.println("Invalid arg"); System.out.println("Nammber of Objects: "+numberofobjects);	•	•
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numberofobjects++; } BufferedReader br=new BufferedReader(new InputStreamReader(System.in)); 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(); Spatem.out.println("Enter Id of employee "-(i+1)+" :"); System.out.println("Enter Name of employee "-(i+1)+" :"); String deptname= 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)+" :"); System.out.println("Enter salary of employee "-(i+1)+" :"); System.out.println("Invalid arg"); System.out.println("Invalid ar		nublic void get() throws IOException
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public void display(){ System.out.println("Employee Id:"+id); System.out.println("Employee Id:"+id); System.out.println("Employee name: "+name); System.out.println("Employee Department: "-deptname); "-deptname); System.out.println("Employee Salary:"+salary); Bystem.out.println("Employee Salary:"+salary); System.out.println("Employee Salary:"+salary); Bystem.out.println("Employee Salary:"+salary); Bystem.out.println("How many employees you want to enter:"); Bystem.out.println("Name="+name); Bystem.out.println("Name="+name); Bystem.out.println("no of innings="+inning); Bystem.out.println("no times bystem.out.println("no times bystem.out.println("no times bystem.out.println("no times bystem.out.println("no times bystem.out.println("bat avg="+batavg); Bystem.out.println("Enter Id of employee bystem.out.println("Enter Id of employee bystem.out.println("Enter Name of employee bystem.out.println("Employee bystem.out.println("Invalid arg"); Bystem.out.println("Invalid arg"); Bystem.out.println("Name="hame,salary); Bystem.out.println("Name="hame,salary); Bystem.out.println("Name="hame,salary); Bystem.out.println("Invalid arg"); Byste		RufferedReader br=new RufferedReader(new
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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 c[i].batavg=c[i].totalruns/c[i].inning; 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); static void avg(int n, Cricket c[]) (System.oid.nor, Cricket c[]){		
<pre>"+(i+1)+":"); int id=sc.nextInt(); System.out.println("Enter Name of employee</pre>	* *	}
int id=sc.nextInt(); System.out.println("Enter Name of employee try "+(i+1)+":"); sc.nextLine(); String name= sc.nextLine(); System.out.println("Enter dept name of c[i].batavg=c[i].totalruns/c[i].inning; employee "+(i+1)+":"); String deptname=sc.nextLine(); System.out.println("Enter salary of employee catch(ArithmeticException e) "+(i+1)+":"); float salary = sc.nextFloat(); ob[i]=new Employee(id,name,deptname,salary); System.out.println("\nNumber of Objects: "+numberofobjects); static void sort(int n, Cricket c[]){		static void avalint n. Cricket c[])
System.out.println("Enter Name of employee try "+(i+1)+":"); { sc.nextLine(); for(int i=0;i <n;i++) "+(i+1)+":");="" "+numberofobjects);="" arg");="" c[]){<="" c[i].batavg="c[i].totalruns/c[i].inning;" catch(arithmeticexception="" cricket="" dept="" deptname="sc.nextLine();" e)="" employee="" employee(id,name,deptname,salary);="" float="" n,="" name="" ob[i]="new" objects:="" of="" salary="sc.nextFloat();" sort(int="" static="" string="" system.out.println("\nnumber="" system.out.println("enter="" system.out.println("invalid="" td="" void="" {="" }=""><td></td><td>{</td></n;i++)>		{
<pre>"+(i+1)+":"); sc.nextLine(); String name= sc.nextLine(); System.out.println("Enter dept name of c[i].batavg=c[i].totalruns/c[i].inning; employee "+(i+1)+":"); String deptname=sc.nextLine(); System.out.println("Enter salary of employee catch(ArithmeticException e) "+(i+1)+":"); { float salary = sc.nextFloat(); ob[i]=new Employee(id,name,deptname,salary); System.out.println("\nNumber of Objects: "+numberofobjects); static void sort(int n, Cricket c[]){</pre>	· · ·	try
sc.nextLine(); String name= sc.nextLine(); System.out.println("Enter dept name of c[i].batavg=c[i].totalruns/c[i].inning; employee "+(i+1)+":"); String deptname=sc.nextLine(); System.out.println("Enter salary of employee catch(ArithmeticException e) "+(i+1)+":"); {loat salary = sc.nextFloat(); ob[i]=new Employee(id,name,deptname,salary); System.out.println("Invalid arg");		{
String name= sc.nextLine(); System.out.println("Enter dept name of c[i].batavg=c[i].totalruns/c[i].inning; employee "+(i+1)+":"); String deptname=sc.nextLine(); System.out.println("Enter salary of employee catch(ArithmeticException e) "+(i+1)+":"); { float salary = sc.nextFloat();	• •	for(int i=0:i <n:i++)< td=""></n:i++)<>
System.out.println("Enter dept name of c[i].batavg=c[i].totalruns/c[i].inning; employee "+(i+1)+" :"); } String deptname=sc.nextLine(); } System.out.println("Enter salary of employee catch(ArithmeticException e) "+(i+1)+" :"); { float salary = sc.nextFloat(); System.out.println("Invalid arg"); ob[i]=new Employee(id,name,deptname,salary); } System.out.println("\nNumber of Objects : } "+numberofobjects); static void sort(int n, Cricket c[]){		{
employee "+(i+1)+":"); String deptname=sc.nextLine(); System.out.println("Enter salary of employee catch(ArithmeticException e) "+(i+1)+":"); float salary = sc.nextFloat(); ob[i]=new Employee(id,name,deptname,salary); System.out.println("Invalid arg"); bystem.out.println("Invalid arg"); system.out.println("Invalid arg"); y system.out.println("Invalid arg");		clil hatavg=clil totalruns/clil inning:
String deptname=sc.nextLine(); System.out.println("Enter salary of employee catch(ArithmeticException e) "+(i+1)+":"); float salary = sc.nextFloat(); ob[i]=new Employee(id,name,deptname,salary); System.out.println("Invalid arg"); System.out.println("Invalid arg"); System.out.println("Invalid arg"); **System.out.println("Invalid arg"); **System.out.println("Invali		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
System.out.println("Enter salary of employee catch(ArithmeticException e) "+(i+1)+":"); { float salary = sc.nextFloat(); System.out.println("Invalid arg"); ob[i]=new Employee(id,name,deptname,salary); } System.out.println("\nNumber of Objects: } "+numberofobjects); static void sort(int n, Cricket c[]){		}
<pre>"+(i+1)+":"); float salary = sc.nextFloat(); ob[i]=new Employee(id,name,deptname,salary); System.out.println("\nNumber of Objects: "+numberofobjects); \$\{\text{System.out.println("Invalid arg");}\}\\ static void sort(int n, Cricket c[]){\} \$\]</pre>		catch(ArithmeticExcention e)
float salary = sc.nextFloat(); System.out.println("Invalid arg"); ob[i]=new Employee(id,name,deptname,salary); } System.out.println("\nNumber of Objects : } "+numberofobjects); static void sort(int n, Cricket c[]){		,
ob[i]=new Employee(id,name,deptname,salary); } System.out.println("\nNumber of Objects : } "+numberofobjects); static void sort(int n, Cricket c[]){		-
System.out.println("\nNumber of Objects : } "+numberofobjects); static void sort(int n, Cricket c[]){	*	}
"+numberofobjects); static void sort(int n, Cricket c[]){		}
		static void sort(int n Cricket c[]){
	•	

int temp2,temp3,temp4;	##Slip 8 & Slip 16
float temp5;	Q1).
for(int i=0;i <n;i++)< td=""><td>import java.io.BufferedReader;</td></n;i++)<>	import java.io.BufferedReader;
{	import java.io.IOException;
for(int j=i+1;j <n;j++)< td=""><td>import java.io.InputStreamReader;</td></n;j++)<>	import java.io.InputStreamReader;
{	class Student
if(c[i].batavg <c[j].batavg)< td=""><td>{</td></c[j].batavg)<>	{
{	int rollno;
temp1=c[i].name;	String name;
c[i].name=c[j].name;	float per;
c[j].name=temp1;	static int count;
temp2=c[i].inning;	Student(){}
c[i].inning=c[j].inning;	Student(String n,float p)
c[j].inning=temp2;	{
temp3=c[i].tofnotout;	count++;
c[i].tofnotout=c[j].tofnotout;	rollno=count;
c[j].tofnotout=temp3;	name=n;
temp4=c[i].totalruns;	per=p;
c[i].totalruns=c[j].totalruns;	}
c[j].totalruns=temp4;	void display()
temp5=c[i].batavg;	{
c[i].batavg=c[j].batavg;	System.out.println(rollno+"\t"+name+"\t"+per);
c[j].batavg=temp5;	}
}	float getper()
}	{
}	return per;
}	}
}	static void counter()
class calculate	{
{	System.out.println(count+" object is created");
public static void main(String args[])throws	}
IOException	public static void sortStudent(Student s[],int n)
{	{
BufferedReader br=new BufferedReader(new	for(int i=n-1;i>=0;i)
InputStreamReader(System.in));	{
System.out.println("Enter the limit:");	for(int j=0;j <i;j++)< td=""></i;j++)<>
int n=Integer.parseInt(br.readLine());	{
Cricket c[]=new Cricket[n];	if(s[j].getper()>s[j+1].getper())
for(int i=0;i <n;i++)< td=""><td>1/3[]].getper()>3[]+1].getper())</td></n;i++)<>	1/3[]].getper()>3[]+1].getper())
	ા Student t=s[j];
{	
c[i]=new Cricket();	s[j]=s[j+1];
c[i].get();	s[j+1]=t;
}	}
Cricket.avg(n,c);	}
Cricket.sort(n, c);	}
for(int i=0;i <n;i++){< td=""><td>for(int i=0;i<n;i++)< td=""></n;i++)<></td></n;i++){<>	for(int i=0;i <n;i++)< td=""></n;i++)<>
c[i].put();	s[i].display();
}	}
}	}
<u>}</u>	class Studentclass
	{
	<pre>public static void main(String args[]) throws</pre>
	IOException
	{
	BufferedReader br=new BufferedReader(new
	InputStreamReader(System.in));
	System.out.println("Enter no. of Student:");

```
int n=Integer.parseInt(br.readLine());
                                                    public void display(){
Student p[]=new Student[n];
                                                    System.out.println("id: "+id);
for(int i=0;i<n;i++)
                                                    System.out.println("Description: "+description);
                                                    System.out.println("Customername:
System.out.print("Enter Name:");
                                                    "+Customername);
                                                    System.out.println("Vendorname:
String name=br.readLine();
System.out.print("Enter percentage:");
                                                    "+Vendorname);
                                                    System.out.println("----");
float per=Float.parseFloat(br.readLine());
p[i]=new Student(name,per);
p[i].counter();
                                                    }
                                                    class Main {
Student.sortStudent(p,Student.count);
                                                    public static void main(String [] args) throws
                                                    IOException{
                                                    int i;
                                                    System.out.println("Select Any One: ");
Q2).
                                                    BufferedReader br=new BufferedReader(new
import java.io.BufferedReader;
                                                    InputStreamReader(System.in));
import java.io.IOException;
import java.io.InputStreamReader;
                                                    System.out.println("1.Purchase Order");
                                                    System.out.println("2.Sales Order");
abstract class Order{
String id, description;
                                                    int ch=Integer.parseInt(br.readLine());
                                                    switch(ch){
}
class PurchaseOrder extends Order{
                                                    case 1:
                                                    System.out.println("Enter the number of
String Customername, Vendorname;
public void accept() throws IOException{
                                                    purchase Orders: ");
                                                    int n=Integer.parseInt(br.readLine());
System.out.println("Enter the
                                                    PurchaseOrder[] l=new PurchaseOrder[n];
id, description, names of customers and vendors:
                                                    for(i=0;i<n;i++){
");
BufferedReader br=new BufferedReader(new
                                                    I[i]=new PurchaseOrder();
InputStreamReader(System.in));
                                                    I[i].accept();
id=br.readLine();
                                                    }
                                                    for(i=0;i< n;i++){
description=br.readLine();
Customername=br.readLine();
                                                    I[i].display();
                                                    System.out.println ("Object is created");
Vendorname=br.readLine();
public void display(){
                                                    break;
System.out.println("id: "+id);
                                                    case 2:
System.out.println("Description: "+description);
                                                    System.out.println("Enter the number of sales
System.out.println("Customername:
                                                    orders: ");
"+Customername);
                                                    int m=Integer.parseInt(br.readLine());
System.out.println("Vendorname:
                                                    SalesOrder[] h=new SalesOrder[m];
"+Vendorname);
                                                    for(i=0;i< m;i++){
System.out.println("----");
                                                    h[i]=new SalesOrder();
                                                    h[i].accept();
                                                    }
class SalesOrder extends Order{
                                                    for(i=0;i<m;i++){
String Customername, Vendorname;
                                                    h[i].display();
                                                    System.out.println(" Object is created ");
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();
```

}

```
##Silp 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:");
Iname=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 :"+Iname);
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].
er+"\t\t"+si[i].grade);
}
```

##Slip 12 & slip 13	Q2).
Q1).	import java.io.*;
import java.io.InputStreamReader;	class Cricket
import java.io.BufferedReader;	{
import java.io.IOException;	String name;
class Continent	int inning, tofnotout, totalruns;
{	float batavg;
String con;	public Cricket()
InputStreamReader i = new	{
InputStreamReader(System.in);	name=null;
BufferedReader r = new BufferedReader(i);	inning=0;
void con_input() throws IOException	tofnotout=0;
{	totalruns=0;
System.out.println("Enter Continent Name: ");	batavg=0;
con = r.readLine();	}
}	public void get() throws IOException
}	{
class Country extends Continent	BufferedReader br=new BufferedReader(new
	InputStreamReader(System.in));
String cou;	System.out.println("Enter the name, no of
void cou_input() throws IOException	innings, no of times not out, total runs: ");
{	name=br.readLine();
	• • • • • • • • • • • • • • • • • • • •
System.out.println("Enter Country Name: ");	inning=Integer.parseInt(br.readLine());
cou = r.readLine();	tofnotout=Integer.parseInt(br.readLine());
}	totalruns=Integer.parseInt(br.readLine());
}	}
class State extends Country	public void put()
{	{
String sta;	System.out.println("Name="+name);
void sta_input() throws IOException	System.out.println("no of innings="+inning);
{	System.out.println("no times
System.out.println("Enter State Name: ");	notout="+tofnotout);
sta = r.readLine();	System.out.println("total runs="+totalruns);
}	System.out.println("bat avg="+batavg);
}	}
class Main extends State	static void avg(int n, Cricket c[])
{	{
String pla;	try
void pla_input()throws IOException	{
{	for(int i=0;i <n;i++)< td=""></n;i++)<>
System.out.println("Enter Place Name : ");	f
pla = r.readLine();	l
pia – i.ieauLilie(),	c[i].batavg=c[i].totalruns/c[i].inning;
}	}
public static void main(String argsp[])throws	}
IOException	catch(ArithmeticException e)
{	{
Main s = new Main();	System.out.println("Invalid arg");
s.con_input();	}
s.cou_input();	}
s.sta_input();	static void sort(int n, Cricket c[]){
s.pla_input();	String temp1;
System.out.println("\n\nContinent: "+s.con);	int temp2,temp3,temp4;
System.out.println("Country: "+s.cou);	float temp5;
System.out.println("State: "+s.sta);	for(int i=0;i <n;i++)< td=""></n;i++)<>
System.out.println("Place :" + s.pla);	{
}	ι for(int j=i+1;j <n;j++)< td=""></n;j++)<>
, }	{
J	ι

if(c[i].batavg <c[j].batavg)< th=""><th>##Slip 13 Q2) & slip 14 Q1).</th></c[j].batavg)<>	##Slip 13 Q2) & slip 14 Q1).
{	import java.util.Scanner;
temp1=c[i].name;	public class menudriven
c[i].name=c[j].name;	{
c[j].name=temp1;	<pre>public static void main(String[] args)</pre>
temp2=c[i].inning;	{
c[i].inning=c[j].inning;	int choice;//for storing users choice
c[j].inning=temp2;	double radius;
temp3=c[i].tofnotout;	double height;
c[i].tofnotout=c[j].tofnotout;	double volume;
c[j].tofnotout=temp3;	Scanner sc=new Scanner(System.in);//Creating
temp4=c[i].totalruns;	object of the scanner class
c[i].totalruns=c[j].totalruns;	//displaying the menu
c[j].totalruns=temp4;	System.out.println("1:Volume of cylinder");
temp5=c[i].batavg;	System.out.println("2:Factorial of number");
c[i].batavg=c[j].batavg;	System.out.println("3:Number is armstrong or
c[j].batavg=temp5;	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
class calculate	switch(choice)
{	{
public static void main(String args[])throws	case 1:
IOException	//take input from the user
{	//create an instance of the scanner class
BufferedReader br=new BufferedReader(new	Scanner s=new Scanner(System.in);
InputStreamReader(System.in));	System.out.println("Enter the radius:");
System.out.println("Enter the limit:");	radius=s.nextDouble();
int n=Integer.parseInt(br.readLine());	System.out.println("Enter the height:");
Cricket c[]=new Cricket[n];	height=s.nextDouble();
for(int i=0;i< n;i++)	volume=(22*(radius*radius)*height/7);
{	System.out.println("volume of cylinder
c[i]=new Cricket();	is:"+volume);
c[i].get();	break;
}	case 2:
Cricket.avg(n,c);	Scanner a=new Scanner(System.in);
Cricket.sort(n, c);	System.out.println("Enter the number:");
for(int i=0;i <n;i++){< td=""><td><pre>int num=a.nextInt();</pre></td></n;i++){<>	<pre>int num=a.nextInt();</pre>
c[i].put();	int i=1,fact=1;
}	while(i<=num)
}	{
}	fact=fact*i;
<u>, </u>	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:");
System.out.println("\n Not an Armstrong
number:");
break;
case 4:System.out.println("EXIT");
break;
```

```
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;
```

##Slip 15

satch/ArithmeticEveention e)	}
catch(ArithmeticException e)	
System out printle/"Invalid are").	##
System.out.println("Invalid arg");	Q.
}	in
}	cla
static void sort(int n, Cricket c[]){	рι
String temp1;	Sy
int temp2,temp3,temp4;	ne
float temp5;	}
for(int i=0;i <n;i++)< td=""><td>}</td></n;i++)<>	}
{	cla
for(int j=i+1;j <n;j++)< td=""><td>St</td></n;j++)<>	St
{	in
if(c[i].batavg <c[j].batavg)< td=""><td>do</td></c[j].batavg)<>	do
{	рі
temp1=c[i].name;	le
c[i].name=c[j].name;	{
c[j].name=temp1;	th
temp2=c[i].inning;	th
c[i].inning=c[j].inning;	th
c[j].inning=temp2;	th
temp3=c[i].tofnotout;	}
c[i].tofnotout=c[j].tofnotout;	рι
c[j].tofnotout=temp3;	IC
temp4=c[i].totalruns;	{
c[i].totalruns=c[j].totalruns;	St
c[j].totalruns=temp4;	in
temp5=c[i].batavg;	do
c[i].batavg=c[j].batavg;	Вι
c[j].batavg=temp5;	In
}	Sy
}	na
}	Sy
}	ag
}	Sy
class calculate	le
{	Sy
public static void main(String args[])throws	hr
IOException	Pa
{	tr
BufferedReader br=new BufferedReader(new	if(
InputStreamReader(System.in));	th
System.out.println("Enter the limit:");	el
<pre>int n=Integer.parseInt(br.readLine());</pre>	Sy
Cricket c[]=new Cricket[n];	"+
for(int i=0;i <n;i++)< td=""><td>re</td></n;i++)<>	re
{	+0
c[i]=new Cricket();	}c
c[i].get();	}
}	}
Cricket.avg(n,c);	}
Cricket.sort(n, c);	<u>-</u>
for(int i=0;i <n;i++){< td=""><td></td></n;i++){<>	
c[i].put();	
}	
}	

```
#Slip 18
2)
nport java.io.*;
ass CovidException extends Exception{
ublic CovidException(){
stem.out.println("Patient is Covid Positive and
eeds to be hospitalized");
ass Patient{
tring name;
it age;
ouble level,hrct;
ublic Patient(String name,int age,double
vel,double hrct)
nis.name=name;
is.age=age;
is.level=level;
is.hrct=hrct;
ublic static void main(String[] args)throws
Exception
tring name;
it age;
ouble level,hrct;
ufferedReader br=new BufferedReader(new
putStreamReader(System.in));
/stem.out.println("Enter name: ");
ame=br.readLine();
stem.out.println("Enter the age: ");
ge=Integer.parseInt(br.readLine());
stem.out.println("Oxygen level: ");
vel=Double.parseDouble(br.readLine());
/stem.out.println("HRCT report: ");
rct=Double.parseDouble(br.readLine());
atient ob=new Patient(name,age,level,hrct);
у{
(ob.level<95 && ob.hrct>10)
row new CovidException();
stem.out.println("Patient Info: \n"+"Name:
-ob.name+"\nAge: "+ob.age+"\nHRCT
port: "+ob.hrct+"\nOxygen level:"
ob.level);
atch(CovidException e){
```

```
##Slip 19
                                                     System.out.println("Enter the name, address,
Q1)
                                                     No of working hours and rate per hour: ");
import java.io.*;
                                                     BufferedReader br=new BufferedReader(new
import java.util.*;
                                                     InputStreamReader(System.in));
class SetAq2
                                                     name=br.readLine();
                                                     address=br.readLine();
public static void main(String[] args)throws
                                                     hours=Integer.parseInt(br.readLine());
IOException
                                                     rate=Integer.parseInt(br.readLine());
FileReader file=new FileReader("a.txt");
                                                     public void display(){
                                                     System.out.println("Name: "+name);
Scanner sc=new Scanner(file);
                                                     System.out.println("Address: "+address);
String s;
while(sc.hasNext())
                                                     System.out.println("No of Working Hours:
                                                     "+hours);
                                                     System.out.println("Rate per hour: "+rate);
StringBuffer sb=new StringBuffer();
                                                     System.out.println("-----");
s=sc.next():
String s1=s.toUpperCase();
sb.append(s1);
sb.reverse();
                                                     class stafftime{
System.out.println(sb);
                                                     public static void main(String [] args) throws
                                                     IOException{
                                                     System.out.println("Select Any One: ");
                                                     BufferedReader br=new BufferedReader(new
##Slip 19 Q2). & Slip 21 Q1).
                                                     InputStreamReader(System.in));
                                                     System.out.println("1.Full Time Staff");
import java.io.BufferedReader;
                                                     System.out.println("2.Part Time Satff");
import java.io.IOException;
import java.io.InputStreamReader;
                                                     int ch=Integer.parseInt(br.readLine());
abstract class Staff{
                                                     switch(ch){
String name, address;
                                                     case 1:
                                                     System.out.println("Enter the number of Full
}
class FullTimeStaff extends Staff{
                                                     Time Staff: ");
                                                     int n=Integer.parseInt(br.readLine());
String department;
                                                     FullTimeStaff[] l=new FullTimeStaff[n];
double salary;
public void accept() throws IOException{
                                                     for(i=0;i<n;i++){
System.out.println("Enter the name, address,
                                                     I[i]=new FullTimeStaff();
department and salary: ");
                                                     I[i].accept();
BufferedReader br=new BufferedReader(new
InputStreamReader(System.in));
                                                     for(i=0;i<n;i++){
name=br.readLine();
                                                     I[i].display();
address=br.readLine();
                                                     }
                                                     break;
department=br.readLine();
salary=Double.parseDouble(br.readLine());
                                                     case 2:
                                                     System.out.println("Enter the number of Part
                                                     Time Staff: ");
public void display(){
                                                     int m=Integer.parseInt(br.readLine());
System.out.println("Name: "+name);
                                                     PartTimeStaff[] h=new PartTimeStaff[m];
System.out.println("Address: "+address);
System.out.println("Department:
                                                     for(i=0;i< m;i++){
                                                     h[i]=new PartTimeStaff();
"+department);
System.out.println("Salary: "+salary);
                                                     h[i].accept();
System.out.println("----");
                                                     for(i=0;i<m;i++){
                                                     h[i].display();
class PartTimeStaff extends Staff{
                                                     }
int hours, rate;
                                                     break;
public void accept() throws IOException{
                                                     }
```

```
##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");
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.parseI
nt(a[3]));
System.out.println(a[1]+"\t"+cost);
tcost=tcost+(Integer.parseInt(a[2])*Integer.pars
eInt(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);
if(("preranasherla").equals(ob.uname))
System.out.println("Valid Username");
throw new InvalidUsernameException();
}catch(InvalidUsernameException e){ }
try{
if(("prerana1234").equals(ob.pwd))
System.out.println("Valid Password");
```

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

```
Q2).
import java.io.*;
class invaliddateexception extends Exception
invaliddateexception(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]);
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");
throw new invaliddateexception(dd);
catch(invaliddateexception e)
break;
case 4:
case 6:
```

##Slip 23

```
case 9:
                                                    ##Slip 24
case 11:
                                                    Q2).
try
                                                    importjava.awt.*;
                                                    importjava.awt.event.*;
if(dd>=1 && dd<=30)
                                                    importjavax.swing.*;
System.out.println("The given date valid one");
                                                    public class Calculator
                                                     extendsJFrameimplementsActionListener
throw new invaliddateexception(dd);
                                                    {
                                                     JTextFieldtf1;
}
catch(invaliddateexception e)
                                                    JButtonb[]=newJButton[10],bmult,bdiv,badd,bs
                                                    ub,bequal,bdot;
break;
                                                     JPanelp1,p2;
case 2:
                                                     charopr;
try
                                                    // int num1,num2;
                                                    // intans=0;
if(yy%4==0 | | yy%100==0)
                                                    // booleanint_float_flag=false;
                                                     String num="";
if(dd>=1 && dd<=29)
                                                     doublefnum1,fnum2,fans;
System.out.println("The date is valid and it is a
                                                     Calculator()
leap year");
                                                     tf1=newJTextField();
else if(dd>=1 && dd<=28)
                                                     for(inti=0;i<10;i++)
System.out.println("The given date is valid");
                                                      b[i]=newJButton(Integer.toString(i));
throw new invaliddateexception(dd);
                                                      b[i].addActionListener(this);
}
catch(invaliddateexception e)
                                                      bmult=newJButton("*");
                                                      bdiv=newJButton("/");
                                                      badd=newJButton("+");
}
break;
                                                      bsub=newJButton("-");
                                                      bequal=newJButton("=");
                                                      bdot=newJButton(".");
                                                      bmult.addActionListener(this);
                                                      bdiv.addActionListener(this);
                                                     badd.addActionListener(this);
                                                      bsub.addActionListener(this);
                                                      bequal.addActionListener(this);
                                                      bdot.addActionListener(this);
                                                      p1=newJPanel();
                                                      p1.setLayout(newGridLayout(1,1));
                                                      p1.add(tf1);
                                                      p2=newJPanel();
                                                      p2.setLayout(newGridLayout(4,4));
                                                     for(inti=1;i<=3;i++)
                                                      p2.add(b[i]);
                                                      p2.add(badd);
                                                     for(inti=4;i<=6;i++)
                                                      p2.add(b[i]);
                                                      p2.add(bsub);
```

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

```
p2.add(b[i]);
                                                            }
 p2.add(bmult);
                                                    if(tb==b[6])
 p2.add(b[0]);
                                                    num=num+"6";
p2.add(bdot);
                                                   tf1.setText(num);
 p2.add(bequal);
 p2.add(bdiv);
                                                    if(tb==b[7])
                                                    num=num+"7";
setLayout(newBorderLayout());
 add(p1,BorderLayout.NORTH);
                                                    tf1.setText(num);
add(p2,BorderLayout.CENTER);
                                                    if(tb==b[8])
setTitle("Simple Calculator");
setSize(500,400);
                                                    num=num+"8";
setVisible(true);
                                                   tf1.setText(num);
setDefaultCloseOperation (JFrame.EXIT\_ON\_CLO
                                                    if(tb==b[9])
SE);
                                                    num=num+"9";
}
publicvoidactionPerformed(ActionEventae)
                                                   tf1.setText(num);
                                                            }
JButtontb=(JButton)ae.getSource();
                                                    if(tb==badd)
if(tb==b[0])
                                                     String tempNum=tf1.getText();
 num=num+"0";
                                                     if(tempNum.contains("."))
 tf1.setText(num);
                                                     fnum1=Double.parseDouble(tf1.getText());
 /* if(tf1.getText()=="0"||tf1.getText()=="0.0")
  num="";
                                                     else
                                                     fnum1=Integer.parseInt(tf1.getText());
 int n=Integer.parseInt(num);
 tf1.setText(Integer.toString(n));
                                                     opr='+';
 */
                                                     num="";
}
if(tb==b[1])
                                                    if(tb==bsub)
 num=num+"1";
                                                      String tempNum=tf1.getText();
                                                    if(tempNum.contains("."))
 tf1.setText(num);
                                                   fnum1=Double.parseDouble(tf1.getText());
if(tb==b[2])
                                                   else
 num=num+"2";
                                                   fnum1=Integer.parseInt(tf1.getText());
 tf1.setText(num);
                                                   opr='-';
                                                   num="";
 if(tb==b[3])
                                                            }
num=num+"3";
                                                    if(tb==bmult)
tf1.setText(num);
                                                                String tempNum=tf1.getText();
        }
if(tb==b[4])
                                                    if(tempNum.contains("."))
                                                   fnum1=Double.parseDouble(tf1.getText());
num=num+"4";
tf1.setText(num);
                                                   else
                                                   fnum1=Integer.parseInt(tf1.getText());
        }
if(tb==b[5])
                                                   opr='*';
                                                   num="";
num=num+"5";
                                                            }
tf1.setText(num);
```

```
Q2).
             String tempNum=tf1.getText();
                                                    importjava.awt.event.*;
if(tempNum.contains("."))
                                                    importjavax.swing.*;
fnum1=Double.parseDouble(tf1.getText());
                                                    importjava.awt.*;
                                                    public class HobbiesDemo extends JFrame
                                                    implements ActionListener, ItemListener
fnum1=Integer.parseInt(tf1.getText());
                                                    {
                                                    JLabel 11,12,13,14,15;
opr='/';
num="";
                                                    JTextField tf1;
                                                    JRadioButton rb1,rb2,rb3;
                                                    ButtonGroupbg;
if(tb==bdot)
                                                    JCheckBox cb1,cb2,cb3;
                                                    JPanel p1,p2,p3,p4;
 num=num+".";
                                                    HobbiesDemo()
 tf1.setText(num);
                                                    l1=new JLabel("Your Name : ");
 if(tb==bequal)
                                                    12=new JLabel("Your Class");
                                                    13=new JLabel("Your Hobbies");
 String tempNum=tf1.getText();
                                                    I4=new JLabel("");//used to display name &
 if(tempNum.contains("."))
                                                     I5=new JLabel("");//used to display hobbies
 fnum2=Double.parseDouble(tf1.getText());
 else
                                                     tf1=new JTextField();
  fnum2=Integer.parseInt(tf1.getText());
                                                     rb1=new JRadioButton("FYBCS");
 num="";
                                                     rb2=new JRadioButton("SYBCS");
 if(opr=='+')
                                                     rb3=new JRadioButton("TYBCS");
 fans=fnum1+fnum2;
                                                     rb1.addActionListener(this);
 elseif(opr=='-')
                                                     rb2.addActionListener(this);
 fans=fnum1-fnum2;
                                                     rb3.addActionListener(this);
 elseif(opr=='*')
 fans=fnum1*fnum2;
                                                     bg=new ButtonGroup();
 elseif(opr=='/')
                                                     bg.add(rb1);
                                                     bg.add(rb2);
 if(fnum2==0)
                                                     bg.add(rb3);
  tf1.setText("ERROR: Divide By Zero");
                                                     cb1=new JCheckBox("Music");
                                                     cb2=new JCheckBox("Dance");
  return;
                                                     cb3=new JCheckBox("Sports");
  else
                                                     cb1.addItemListener(this);
  fans=fnum1/fnum2;
                                                     cb2.addItemListener(this);
                                                     cb3.addItemListener(this);
 tf1.setText(Double.toString(fans));
                                                     p1=new JPanel();
                                                     p1.setLayout(new GridLayout(1,2));
publicstaticvoid main(String args[])
                                                     p1.add(l1); p1.add(tf1);
new Calculator();
                                                     p2=new JPanel();
                                                    p2.setLayout(new GridLayout(4,1));
                                                    p2.add(I2);
                                                     p2.add(rb1);
                                                     p2.add(rb2);
                                                     p2.add(rb3);
                                                     p3=new JPanel();
                                                    p3.setLayout(new GridLayout(4,1));
```

##Slip 26

if(tb==bdiv)

```
p3.add(I3);
 p3.add(cb1);
 p3.add(cb2);
 p3.add(cb3);
 p4=new JPanel();
p4.setLayout(new GridLayout(1,2));
p4.add(I4);
 p4.add(I5);
 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(ActionEventae)
 String s="NAME: "+tf1.getText()+" CLASS:
"+ae.getActionCommand();
 I4.setText(s);
}
public void itemStateChanged(ItemEventie)
 String s="";
 if(cb1.isSelected())
 s=s+cb1.getText()+" ";
 if(cb2.isSelected())
 s=s+cb2.getText()+" ";
 if(cb3.isSelected())
 s=s+cb3.getText()+" ";
 I5.setText(" HOBBIES : "+s);
public static void main(String args[])
HobbiesDemo hob=new HobbiesDemo();
}
}
```