**APPLET**

House

Code:

import java.awt.\*;

import java.applet.\*;

/\*<applet code=House.class width=500 height=500>

</applet>\*/

public class House extends Applet

{

public void paint(Graphics g)

{

Polygon p=new Polygon();

p.addPoint(250,50);

p.addPoint(50,150);

p.addPoint(450,150);

g.setColor(new Color (216,160,32));

g.fillPolygon(p);

g.setColor(Color.blue);

g.fillRect(100,150,300,200);

g.setColor(Color.yellow);

g.fillRect(135,175,70,50);

g.setColor(Color.yellow);

g.fillRect(135+70+90,175,70,50);

g.setColor(Color.red);

g.fillRect(205,250,90,100);

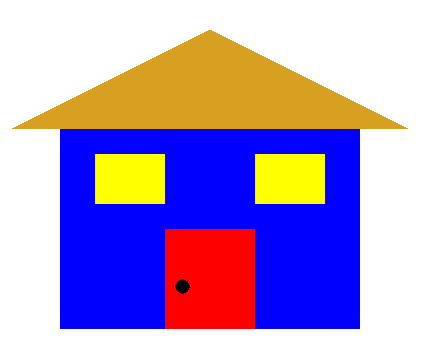
g.setColor(Color.black);

g.fillOval(215,300,15,15);

}

}

OUTPUT:



Clock

Code:

import java.awt.\*;

import java.applet.\*;

public class test extends Applet

{

public void paint(Graphics g)

{

/\*

<applet code="test.class" width="400" height="400">

</applet>

\*/

g.setColor(Color.red);

g.fillOval(80,80,250,250);

g.setColor(Color.blue);

g.fillOval(105,105,200,200);

g.setColor(Color.black);

g.drawString("12",200,120);

g.drawString("9",120,205);

g.drawString("3",280,205);

g.drawString("6",200,300);

//draw the minute hand

g.fillRect(200,198,3,70);

//draw the hour hand

g.fillRect(200,198,50,10);

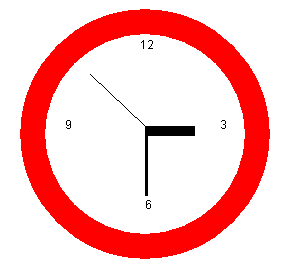
//draw the second hand

g.drawLine(200,198,150,150);

}

}

OUTPUT:



Joker

Code:

import java.applet.\*;

import java.awt.\*;

public class test extends Applet{

/\*

<applet code="test.class" width="400" height="450">

</applet>

\*/

public void paint(Graphics g)

{

g.drawString("Joker Face",30,30);

g.setColor(Color.black);

g.fillOval(238,238,250,250);

g.setColor(Color.white);

g.fillOval(275,325,30,30);

g.setColor(Color.white);

g.fillOval(420,325,30,30);

int x1[]={245,365,480};

int y2[]={317,100,317};

g.setColor(Color.blue);

g.fillPolygon(x1,y2,3);

int x[]={355,365,375};

int y[]={375,335,375};

g.setColor(Color.red);

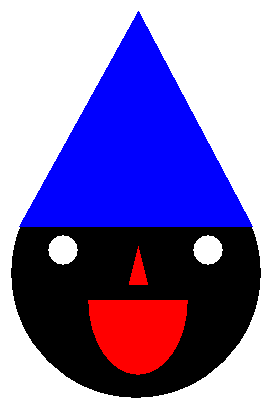
g.fillPolygon(x,y,3);

g.setColor(Color.red);

g.fillArc(315,315,100,150,180,180);

}}

OUTPUT:



Traffics

Code:

import java.applet.\*;

import java.awt.\*;

public class traffics extends Applet

{

public void paint(Graphics g)

{

g.setColor(Color.black);

g.fillRect(100,100,100,160);

g.setColor(Color.red);

g.fillOval(135,115,30,30);

g.setColor(Color.yellow);

g.fillOval(135,158,30,30);

g.setColor(Color.green);

g.fillOval(135,200,30,30);

g.setColor(Color.black);

g.fillRect(140,250,20,140);

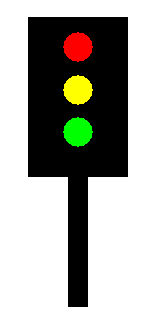
}

}

/\*<applet code="traffics.class" width="500" height="500">

</applet>\*/

OUTPUT:



Flower

Code:

import java.awt.\*;

import java.applet.\*;

public class flower extends Applet

{

/\*<applet code="flower.class" width="300" height="400">

</applet>

\*/

public void init()

{

setBackground(Color.gray);

}

public void paint(Graphics g)

{

//middle circle

g.setColor(Color.yellow);

g.fillOval(120,110,45,45);

//petals

g.setColor(Color.white);

g.fillOval(92,115,30,30);

g.fillOval(154,115,30,30);

g.fillOval(110,148,30,30);

g.fillOval(145,148,30,30);

g.fillOval(110,87,30,30);

g.fillOval(140,85,30,30);

//stem

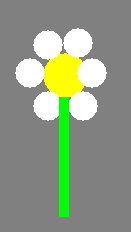
g.setColor(Color.green);

g.fillRect(136,154,10,120);

}

}

OUTPUT:



Exp-2

Constructor Overloading-area

Code:

import java.util.\*;

class Dimension{

double t1, t2, t3;

int n;

// Dimension(double p1, double p2, double p3){

// t1=p1;

// t2=p2;

// t3=p3;

// }

Dimension(double p1, double p2){

t1=p1;

t2=p2;

//t3=0;

}

Dimension(double p){

t1=t2=t3=p;

}

Dimension(){

t1=t2=t3=0;

}

double area()

{

return t1\*t2;

}

public static void main(String args[]){

int choice;

double val=0;

Scanner sc= new Scanner(System.in);

System.out.println("Menu->\nEnter your choice whose area has to be calculated:");

System.out.println(" 1. Rectangle\n 2. Square\n 3. Triangle\n 4. Circle");

choice=sc.nextInt();

//System.out.println("Your choice is"+choice);

switch(choice){

case 1:

System.out.println("For Rectangle\nEnter the length:");

int l=sc.nextInt();

System.out.println("Enter the breadth:");

int b=sc.nextInt();

Dimension d1=new Dimension(l,b);

val=d1.area();

break;

case 2:

System.out.println("For Square\nEnter the side:");

int s=sc.nextInt();

Dimension d2=new Dimension(s);

val=d2.area();

break;

case 3:

System.out.println("For Triangle\nEnter the height:");

int h=sc.nextInt();

System.out.println("Enter the base length:");

int bl=sc.nextInt();

Dimension d3=new Dimension(h,bl);

val=d3.area();

val=val/2;

break;

case 4:

System.out.println("For Circle\nEnter the radius:");

int r=sc.nextInt();

Dimension d4=new Dimension(r);

val=d4.area();

val=val\*3.14;

break;

default:

System.out.println("INVALID NUMBER!!!");

}

System.out.println("The Area is: "+ val +" sq.units");

}

}

OUTPUT:  
C:\Users\HP\Desktop\JAVA\Practicals\Exp 2-Constructor Overloading>java Dimension

Menu->

Enter your choice whose area has to be calculated:

1. Rectangle

2. Square

3. Triangle

4. Circle

1

For Rectangle

Enter the length:

3

Enter the breadth:

5

The Area is: 15.0 sq.units

Exp-3

import java.util.\*;

class Tree

{

int code, height, base, amount;

Scanner sc=new Scanner(System.in);

Tree(int c, int h, int b, int amt)

{

code=c;

height=h;

base=b;

amount=amt;

}

void display()

{

System.out.println("Tree code: "+code);

System.out.println("Tree height: "+height);

System.out.println("Tree base: "+base);

System.out.println("Tree amount: "+amount);

}

void update()

{

System.out.println("Enter updated Tree code: ");

code=sc.nextInt();

System.out.println("Enter updated Tree height: ");

height=sc.nextInt();

System.out.println("Enter updated Tree base: ");

base=sc.nextInt();

System.out.println("Enter updated Tree amount: ");

amount=sc.nextInt();

}

}

class Mango\_Tree extends Tree

{

int yield;

Mango\_Tree(int c, int h, int b, int amt, int y)

{

super(c,h,b,amt);

yield=y;

}

void display()

{

System.out.println("Mango Tree code: "+code);

System.out.println("Mango Tree height: "+height);

System.out.println("Mango Tree base: "+base);

System.out.println("Mango Tree amount: "+amount);

System.out.println("Mango Tree yield: "+yield);

}

}

class Garden

{

public static void main(String[] args)

{

Tree t=new Tree(111, 23, 45, 1000);

Mango\_Tree mt=new Mango\_Tree(212, 30, 50, 1100, 69);

System.out.println("For Tree: ");

t.display();

System.out.println("For Mango Tree: ");

mt.display();

System.out.println("Do you want to update Tree information(Y/N): ");

//char ch=(char) System.in.read();

Scanner sc=new Scanner(System.in);

char ch=sc.next().charAt(0);

if(ch=='Y'||ch=='y')

{

t.update();

System.out.println("For updated Tree: ");

t.display();

}

}

}

OUTPUT:

C:\Users\HP\Desktop\JAVA\Practicals\Exp 3-Garden>java Garden

For Tree:

Tree code: 111

Tree height: 23

Tree base: 45

Tree amount: 1000

For Mango Tree:

Mango Tree code: 212

Mango Tree height: 30

Mango Tree base: 50

Mango Tree amount: 1100

Mango Tree yield: 69

Do you want to update Tree information(Y/N):

y

Enter updated Tree code:

222

Enter updated Tree height:

22

Enter updated Tree base:

55

Enter updated Tree amount:

1111

For updated Tree:

Tree code: 222

Tree height: 22

Tree base: 55

Tree amount: 1111

Exp-4

Overriding-Abstract Class

abstract class Shape

{

abstract int area(int l, int b);

}

class Rectangle extends Shape

{

int length, breadth;

int area(int l, int b)

{

length=l;

breadth=b;

return length\*breadth;

}

}

class Square extends Shape

{

int side;

int area(int l, int b)

{

side=l=b;

return side\*side;

}

}

class Override

{

public static void main(String[] args)

{

Rectangle r = new Rectangle();

int val=r.area(5,7);

System.out.println("Area of the Rectangle is: " + val);

Square s = new Square();

val=s.area(8,8);

System.out.println("Area of the Square is: " + val);

}

}

OUTPUT:

C:\Users\HP\Desktop\JAVA\Practicals\Exp 4-Overriding Shape>java Override

Area of the Rectangle is: 35

Area of the Square is: 64

Exp-5

Employee-Parameterized Constructor(object array)

Code:

import java.util.\*;

class obj\_array

{

public static void main(String[] args)

{

int i;

double b, g;

String n;

Employee e[]=new Employee[5];

Scanner sc=new Scanner(System.in);

for(int j=1;j<5;j++)

{

System.out.println("\nFor Employee "+j+": ");

System.out.println("Enter Employee ID number: ");

i=sc.nextInt();

System.out.println("Enter Employee name: ");

n=sc.next();

System.out.println("Enter Employee basic salary: ");

b=sc.nextDouble();

e[j]=new Employee(i,n,b);

e[j].compute();

e[j].display();

}

}

}

class Employee

{

int ID;

double basic, gross, da,hra;

String name;

Employee(int i, String n, double b)

{

ID=i;

name=n;

basic=b;

}

void compute()

{

da=basic\*0.5;

hra=basic\*0.4;

gross=basic + da + hra;

}

void display()

{

System.out.println("Employee details:\n Employee ID: "+ID);

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

System.out.println(" Employee basic salary: "+basic);

System.out.println(" Employee gross salary: "+gross);

}

}

OUTPUT:

C:\Users\HP\Desktop\JAVA\Practicals\Exp 5-Employees(Obj array)>java obj\_array

For Employee 1:

Enter Employee ID number:

11

Enter Employee name:

qq

Enter Employee basic salary:

123

Employee details:

Employee ID: 11

Employee name: qq

Employee basic salary: 123.0

Employee gross salary: 233.7

For Employee 2:

Enter Employee ID number:

22

Enter Employee name:

ww

Enter Employee basic salary:

234

Employee details:

Employee ID: 22

Employee name: ww

Employee basic salary: 234.0

Employee gross salary: 444.6

For Employee 3:…….

**Another method:**

import java.io.\*;

import java.util.\*;

class employee

{

int id, sal;

String name;

employee(int i1, String n, int b)

{

id = i1;

name = n;

sal = b;

}

void display()

{

float da = sal\*15/100;

float hra = sal\*10/100;

float gross = sal + da + hra;

System.out.println("ID: " + id);

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

System.out.println("Salary: " + sal);

System.out.println("Gross Salary: " + gross);

}

}

class test

{

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

{

for(int i=0; i<=5; i++)

{

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

System.out.println("ID");

int i1 = Integer.parseInt(br.readLine());

System.out.println("Name");

String n = br.readLine();

System.out.println("Basic Salary");

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

employee e = new employee(i1,n,b);

e.display();

}

}

}

**Exp-6**

Object passing as parameter-Complex number

Code:

import java.io.\*;

class Complex

{

int real, img;

Complex()

{

real=0;

img=0;

}

Complex(int a, int b)

{

real=a;

img=b;

}

void add(Complex y)

{

Complex z=new Complex();

z.real = real + y.real;

z.img = img + y.img;

System.out.println("Addition is:");

z.display();

}

void subtract(Complex y)

{

Complex z=new Complex();

z.real = real - y.real;

z.img = img - y.img;

System.out.println("Subtraction is:");

z.display();

}

/\*

public static math add(math n1, math n2)

{

math temp = new math(0, 0);

temp.real = n1.real + n2.real;

temp.imaginary = n1.imaginary + n2.imaginary;

return(temp);

}

public static math sub(math n1, math n2)

{

math temp1 = new math(0, 0);

temp1.real = n1.real - n2.real;

temp1.imaginary = n1.imaginary - n2.imaginary;

return(temp1);

}

\*/

void multiply(Complex y)

{

Complex z=new Complex();

z.real = real\*y.real + img\*y.img;

z.img = img\*y.real + real\*y.img;

System.out.println("Multiplication is:");

z.display();

}

void display()

{

System.out.println(" "+real+"+("+img+"i)");

}

}

class Obj\_as\_argument

{

public static void main(String[] args)

{

Complex x=new Complex(3, 4);

Complex y=new Complex(2, 5);

x.add(y);

x.subtract(y);

x.multiply(y);

}

/\*

public static void main(String[] args)

{

math n1 = new math(2, 4);

math n2 = new math(3, 5);

math temp, temp1, temp2;

temp = add(n1, n2);

temp1 = sub(n1,n2);

temp2 = mul(n1,n2);

}

\*/

}

OUTPUT:

C:\Users\HP\Desktop\JAVA\Practicals\Exp 6-Complex No.(Obj\_passing\_as\_argument)>java Obj\_as\_argument

Addition is:

5+(9i)

Subtraction is:

1+(-1i)

Multiplication is:

26+(23i)

**Exp-7**

Bank

Code:

import java.io.\*;

import java.util.\*;

class bank1

{

int a\_id, a\_bal, a\_yr, a\_rate,a\_fine;

String a\_name, a\_type;

boolean b;

//Scanner s = new Scanner(System.in);

void read() throws IOException

{

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

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

a\_id = Integer.parseInt(br.readLine());

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

a\_name = br.readLine();

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

a\_bal = Integer.parseInt(br.readLine());

}

void current()

{

if(a\_bal <= 10)

{

System.out.println("Less Balance");

a\_fine = a\_bal + 1000;

System.out.println("Fine: " + a\_fine);

}

else

{

System.out.println(a\_id + " " + a\_name + " " + a\_bal);

}

}

void savings() throws IOException

{

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

if(b == true)

{

System.out.println("Enter the amount you want to deposit");

int a\_dep = Integer.parseInt(br.readLine());

a\_bal = a\_bal + a\_dep;

System.out.println("Deposit: " + a\_dep);

}

else

{

System.out.println("Enter the amount you want to withdraw");

int a\_with = Integer.parseInt(br.readLine());

a\_bal = a\_bal - a\_with;

System.out.println("withdraw " + a\_with);

}

double a\_com = Math.pow(1+a\_rate/100,a\_yr) - a\_bal;

System.out.println("Compound Interest: " + a\_com);

}

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

{

int ch;

bank1 b1 =new bank1();

b1.read();

System.out.println("Enter your Choice");

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

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

Scanner s1 = new Scanner(System.in);

ch = s1.nextInt();

switch(ch)

{

case 1: b1.current();

break;

case 2: b1.savings();

break;

default: System.out.println("Try Again");

break;

}

}

}

OUTPUT:

C:\Users\HP\Desktop\JAVA\Practicals\Experiments>java bank1

Enter ID

11

Enter Name

qq

Enter Amount

123

Enter your Choice

1.Current

2.Savings

1

11 qq 123

C:\Users\HP\Desktop\JAVA\Practicals\Experiments>java bank1

Enter ID

22

Enter Name

ww

Enter Amount

9

Enter your Choice

1.Current

2.Savings

1

Less Balance

Fine: 1009

C:\Users\HP\Desktop\JAVA\Practicals\Experiments>java bank1

Enter ID

33

Enter Name

ee

Enter Amount

33

Enter your Choice

1.Current

2.Savings

2

Enter the amount you want to withdraw

22

withdraw 22

Compound Interest: -10.0

C:\Users\HP\Desktop\JAVA\Practicals\Experiments>java bank1

Enter ID

44

Enter Name

rr

Enter Amount

4444

Enter your Choice

1.Current

2.Savings

2

Enter the amount you want to withdraw

100

withdraw 100

Compound Interest: -4343.0

**Another code:**

import java.util.\*;

class Account

{

String cus\_name, type;

int acc\_no;

double balance, w;

//boolean cheque=false;

Account(String n, int no, String t, double b)

{

cus\_name=n;

acc\_no=no;

type=t;

balance=b;

}

void withdraw(double bal)

{

balance=balance-bal;

System.out.println("\nAmount withdrawn: "+bal);

System.out.println("After withdrawal new balance of account no. "+acc\_no+" is: "+balance);

}

void display()

{

System.out.println("\nCustomer name: "+cus\_name);

System.out.println("Account number: "+acc\_no);

System.out.println("Account type: "+type+" account");

System.out.println("Balance: "+balance);

}

void deposit(double bal)

{

balance=balance+bal;

System.out.println("Amount deposited: "+bal);

System.out.println("After deposition new balance of account no. "+acc\_no+" is: "+balance);

}

}

class Savings extends Account

{

float interest;

Savings(String n, int no, String t, double b, float i)

{ super(n,no,t,b);

interest=i;

}

public void calculate()

{

balance = balance + balance\*interest;

}

}

class Current extends Account

{

boolean cheque;

Current(String n, int no, String t, double b, boolean c)

{

super(n,no,t,b);

cheque=c;

}

void display()

{

super.display();

System.out.println("Cheque facility available");

}

void min\_bal()

{

if(balance<1000)

{ balance=balance-111;

System.out.println("After service charges the new balance is: "+balance);

}

}

}

class Bank

{

public static void main(String[] args)

{

Savings s=new Savings("www", 33, "savings", 600, 1.3f);

s.display();

s.withdraw(200);

//s.display();

Current c=new Current("abc", 11, "current", 900, true);

c.display();

c.min\_bal();

}

}

OUTPUT:

C:\Users\HP\Desktop\JAVA\Practicals\Exp 7-Bank>java Bank

Customer name: www

Account number: 33

Account type: savings account

Balance: 600.0

Amount withdrawn: 200.0

After withdrawal new balance of account no. 33 is: 400.0

Customer name: abc

Account number: 11

Account type: current account

Balance: 900.0

Cheque facility available

After service charges the new balance is: 789.0

Exp-8

Educational institution(college.java)

Code:

import java.io.\*;

import java.util.\*;

class staff

{

int s\_code;

String s\_name;

staff(int c, String n)

{

s\_code = c;

s\_name = n;

}

void display()

{

System.out.println("code: "+s\_code);

System.out.println("Name: "+s\_name);

}

}

class teacher extends staff

{

String t\_sub, t\_pub;

teacher(int c, String n, String s, String p)

{

super(c,n);

t\_sub = s;

t\_pub = p;

}

void display()

{

super.display();

System.out.println("Subject: "+t\_sub);

System.out.println("Publication: "+t\_pub);

}

}

class typist extends staff

{

int t1\_speed;

typist(int c, String n, int s)

{

super(c,n);

t1\_speed = s;

}

void display()

{

super.display();

System.out.println("Speed: "+t1\_speed);

}

}

class officer extends staff

{ String o\_grade;

officer(int c, String n, String g)

{

super(c,n);

o\_grade = g;

}

void display()

{

super.display();

System.out.println("Grade " +o\_grade);

}

}

class regular extends typist

{ regular(int c, String n, int s)

{

super(c,n,s);

}

void display()

{

super.display();

}

}

class casual extends typist

{ int w\_wages;

casual(int c, String n, int s, int w)

{

super(c,n,s);

w\_wages = w;

}

void display()

{

super.display();

System.out.println("Wages " +w\_wages);

}

}

class college

{

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

{

casual c = new casual(1, "abc", 122, 1222);

c.display();

regular r = new regular(2,"def", 21);

r.display();

teacher t = new teacher(3,"aww", "oop","oracle");

t.display();

officer o = new officer(4,"yay", "A");

o.display();

}

}

OUTPUT:

C:\Users\HP\Desktop\JAVA\Practicals\Experiments>javac college.java

C:\Users\HP\Desktop\JAVA\Practicals\Experiments>java college

code: 1

Name: abc

Speed: 122

Wages 1222

code: 2

Name: def

Speed: 21

code: 3

Name: aww

Subject: oop

Publication: oracle

code: 4

Name: yay

Grade A

Exp-9

Vector-student name

Code: import java.util.\*;

class Vector\_student

{

public static void main(String[] args)

{

Vector v = new Vector(5);

int i;

char c='Y';

Scanner sc = new Scanner(System.in);

while(c=='Y')

{

System.out.println("Menu=>");

System.out.println("1. Add student name");

System.out.println("2. Remove student name");

System.out.println("3. Display student name");

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

i=sc.nextInt();

switch(i)

{

case 1 :

String n;

System.out.println("Enter the name: ");

n=sc.next();

v.add(n);

break;

case 2 :

String r;

System.out.println("Enter the name to be removed: ");

r=sc.next();

v.removeElement(r);

break;

case 3 :

System.out.println("Content of vector:" +v);

//for(int k=0;k<v.size();k++)

// System.out.print(v.elementAt(k)+" ");

System.out.println();

break;

default :

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

}

System.out.println("Do you want to continue(Y/N): ");

c=sc.next().charAt(0);

}

}

}

OUTPUT:

C:\Users\HP\Desktop\JAVA\Practicals\Exp 9-Vector\_student>java Vector\_student

Menu=>

1. Add student name

2. Remove student name

3. Display student name

Enter your choice:

1

Enter the name:

qq

Do you want to continue(Y/N):

Y

Menu=>

1. Add student name

2. Remove student name

3. Display student name

Enter your choice:

1

Enter the name:

EE

Do you want to continue(Y/N):

Y

Menu=>

1. Add student name

2. Remove student name

3. Display student name

Enter your choice:

3

Content of vector:[qq, EE]

Do you want to continue(Y/N):

Y

Menu=>

1. Add student name

2. Remove student name

3. Display student name

Enter your choice:

1

Enter the name:

RR

Do you want to continue(Y/N):

Y

Menu=>

1. Add student name

2. Remove student name

3. Display student name

Enter your choice:

2

Enter the name to be removed:

EE

Do you want to continue(Y/N):

Y

Menu=>

1. Add student name

2. Remove student name

3. Display student name

Enter your choice:

3

Content of vector:[qq, RR]

Do you want to continue(Y/N):

N

Exp 10

Vector-city name

Code:

import java.io.\*;

import java.util.\*;

class city

{

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

{

Vector v = new Vector();

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

int ch=1;

String city;

while(ch!=4)

{

System.out.println("1.Add City\n2.Remove City\n3.Display\n4.Exit");

System.out.println("Enter your Choice");

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

switch(ch)

{

case 1: System.out.println("Enter city name:");

city=br.readLine();

if(v.contains(city))

{

System.out.println("City name already exists");

}

else

{

v.addElement(city);

System.out.println("City name added");

}

break;

case 2 : if(v.isEmpty())

{

System.out.println("City name list is empty");

}

else

{

System.out.println("Enter city name:");

city=br.readLine();

if(v.contains(city))

{

v.removeElement(city);

System.out.println("City name removed");

}

else

{

System.out.println("City name does not exist");

}

}

break;

case 3 : if(v.isEmpty())

{

System.out.println("City name list is empty");

}

else

{

System.out.println("Vector : "+v);

}

break;

default : break;

}

}

}

}

OUTPUT:

C:\Users\HP\Desktop\JAVA\Practicals\Experiments\New folder>java city

1.Add City

2.Remove City

3.Display

4.Exit

Enter your Choice

1

Enter city name:

ww

City name added

1.Add City

2.Remove City

3.Display

4.Exit

Enter your Choice

1

Enter city name:

ee

City name added

1.Add City

2.Remove City

3.Display

4.Exit

Enter your Choice

3

Vector : [ww, ee]

1.Add City

2.Remove City

3.Display

4.Exit

Enter your Choice

2

Enter city name:

rr

City name does not exist

1.Add City

2.Remove City

3.Display

4.Exit

Enter your Choice

1

Enter city name:

ww

City name already exists

1.Add City

2.Remove City

3.Display

4.Exit

Enter your Choice

3

Vector : [ww, ee]

1.Add City

2.Remove City

3.Display

4.Exit

Enter your Choice…….

Exp-11

Exceptions

import java.io.\*;

import java.util.\*;

public class exceptions

{

public static void main(String args[])

{

try

{

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

System.out.println("Number 1: ");

int n1 = Integer.parseInt(br.readLine());

System.out.println("Number 2: ");

int n2 = Integer.parseInt(br.readLine());

int output = n1 / n2;

System.out.println ("Result: "+ output);

}

catch(ArithmeticException e)

{

System.out.println (e);

}

catch(NumberFormatException e)

{

System.out.println (e);

}

catch(IOException e)

{

System.out.println (e);

}

}

}

OUTPUT:

C:\Users\HP\Desktop\JAVA\Practicals\Experiments\New folder>java exceptions

Error: Could not find or load main class exceptions

**Exp-12**

Interface-Area

import java.io.\*;

import java.util.\*;

interface Shape

{

float pi=3.14f;

public void read();

public void area();

public void show();

}

class Rectangle implements Shape

{

int l,b;

float a;

public void read()

{

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

try

{

System.out.print("Enter the length : ");

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

System.out.print("Enter the breadth : ");

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

}

catch(Exception e)

{}

}

public void area()

{

a=l\*b;

}

public void show()

{

System.out.println("Area of the rectangle : " + a);

}

}

class Square implements Shape

{

int s;

float a;

public void read()

{

try

{

BufferedReader br1 = new BufferedReader(new InputStreamReader(System.in));

System.out.print("Enter the length of the side: ");

s=Integer.parseInt(br1.readLine());

}

catch(Exception e)

{}

}

public void area()

{

a=s\*s;

}

public void show()

{

System.out.println("Area of the square: " + a);

}

}

class ShapeInterface

{

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

{

int ch;

boolean b = true;

String s;

BufferedReader br2 = new BufferedReader(new InputStreamReader(System.in));

while(b)

{

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

System.out.println("1.Rectangle\n2.Square\n3.EXIT\n");

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

ch = Integer.parseInt(br2.readLine());

switch(ch)

{

case 1: Rectangle r=new Rectangle();

r.read();

r.area();

r.show();

break;

case 2: Square sq=new Square();

sq.read();

sq.area();

sq.show();

break;

case 3: break;

}

}

}

}

OUTPUT:

C:\Users\HP\Desktop\JAVA\Practicals\Experiments\New folder>java ShapeInterface

Area Calculation

1.Rectangle

2.Square

3.EXIT

Enter ur choice : 1

Enter the length : 3

Enter the breadth : 5

Area of the rectangle : 15.0

Area Calculation

1.Rectangle

2.Square

3.EXIT

Enter ur choice : 2

Enter the length of the side: 4

Area of the square: 16.0

**Exp 13**

Multithreading

Code:

import java.io.\*;

import java.util.\*;

class A extends Thread

{

public void run()

{

for(int i = 0; i < 10; i++)

{

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

{

System.out.println("a");

}

}

}

}

class B implements Runnable

{ public void run()

{ for(int i = 0; i < 10; i++)

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

{ System.out.println("b");

}

}

}

}

class Thread1

{

public static void main(String args[])

{

A a = new A();

B b = new B();

Thread t = new Thread(b);

a.start();

t.start();

}

}

OUTPUT:

C:\Users\HP\Desktop\JAVA\Practicals\Experiments\New folder>java Thread1

a

a

a

a

a

a

a

a

a

b

b

b

b

b

b

a

a

a

a

a

b

b

b

b

b

b

b

Exp-14

Thread synchronization

Code:

import java.io.\*;

import java.util.\*;

class syn

{ public synchronized void print(int n)

{

for(int i=1;i<=5;i++)

{

System.out.println(n\*i);

try

{

Thread.sleep(500);

}

catch(Exception e)

{

System.out.println(e);

}

}

}

}

class thread extends Thread

{

syn s;

thread(syn s1)

{

this.s=s1; // this was wrongly written as this.s = s

}

public void run()

{

s.print(5);

}

}

class threadsyn

{

public static void main(String args[])

{

syn s = new syn();

thread t = new thread(s);

t.start();

}

}

OUTPUT:

C:\Users\HP\Desktop\JAVA\Practicals\Experiments\New folder>java threadsyn

5

10

15

20

25