Doubly Linked List

```java
import java.util.Scanner;class
LinkedList{ private Node head;
class Node{ private int
data; private Node left;
private Node right;
public Node(int data){
this.data = data; this.left =
null; this.right = null;
}
}
public void insert(int data){ Node temp
= new Node(data);if(head == null){
head = temp;
}
else{
Node ptr = head;
while(ptr.right != null){ptr =
ptr.right;
}
ptr.right = temp;
temp.left = ptr;
}
}
public void delete(){int x =
head.data; head =
head.right; head.left = null;
System.out.println("Element "+x +" got deleted");
}
public void display()
{
if(head == null) System.out.println("List is
Empty");else
{
Node ptr = head;
while(ptr != null){
```

```java
System.out.print(ptr.data +"\t");ptr =

ptr.right;

}

System.out.println();

}

}

}

class Test

{

public static void main(String [] args)

{

LinkedList list = new LinkedList();
Scanner sc = new Scanner(System.in);String

choice = ""; while(!choice.equals("4"))

{

System.out.print("1. Insert at End \n2. Delete From Front \n3. Display \n4.Exit\n");System.out.println("Enter

the choice:");

choice = sc.nextLine();

switch(choice)

{

case "1": System.out.print("Enter the number to insert:");int data =

sc.nextInt();

sc.nextLine();

list.insert(data);

System.out.println("Data inserted Successfully");break;

case "2": list.delete();break;

case "3": list.display();break;

case "4": break;

default: System.out.println("Invalid Choice");

}

}

}

}
```

OUTPUT

user@user-HCL-Desktop:~/Desktop$ javac Test.javauser@user-HCL-

Desktop:~/Desktop$ java Test

1. Insert at End

2. Delete From Front

3. Display

4.Exit

Enter the choice:

1

Enter the number to insert:4Data

inserted Successfully

1. Insert at End

2. Delete From Front

3. Display

4.Exit

Enter the choice:

3

4

1. Insert at End

2. Delete From Front

3. Display

4.Exit

Enter the choice:

1

Enter the number to insert:8Data

inserted Successfully

1. Insert at End

2. Delete From Front

3. Display

4.Exit

Enter the choice:

3

4 8

1. Insert at End

2. Delete From Front

3. Display

4.Exit

Enter the choice:

1

Enter the number to insert:10Data

inserted Successfully

1. Insert at End

2. Delete From Front

3. Display

4.Exit

Enter the choice:3

4 8 10

1. Insert at End

2. Delete From Front

3. Display

4.Exit

Enter the choice:2

Element 4 got deleted

1. Insert at End

2. Delete From Front

3. Display

4.Exit

Enter the choice:3

8 10

1. Insert at End

2. Delete From Front

3. Display

4.Exit

Enter the choice:4

Quick Sort

```java
import java.util.Scanner;class
Test{
public static void quickSort(String A[],int p,int r){if(p<r){
int q = partition(A,p,r);
quickSort(A,p,q-1);
quickSort(A,q+1,r);
}
}
public static int partition(String A[],int p,int r)
{
String x = A[r];int i
= p-1;
for(int j=p;j<=r-1;j++)
{
if(A[j].compareTo(x) <=0)
{
i = i + 1;
String temp = A[i];A[i] =
A[j];
A[j] = temp;
}
}
String temp = A[i+1];A[i+1]
= A[r];
A[r] = temp;
return i +1 ;
}
public static void main(String args[])
{
Scanner    sc    =    new    Scanner(System.in);
System.out.println("Enter the limit:");
int n = sc.nextInt();
sc.nextLine();
String A[] = new String[n];
```

```
 System.out.println("Enter the names");

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

{

A[i] = sc.nextLine();

}

quickSort(A,0,n-1); System.out.println("After Quick

Sort");for(int i =0;i<n;i++) System.out.println(A[i]);

}

}
```

OUTPUT

user@user-HCL-Desktop:~$ cd Desktop

user@user-HCL-Desktop:~/Desktop$ javac Test.javauser@user-HCL-

Desktop:~/Desktop$ java Test Enter the limit:

4

Enter the namesDog

Cow

Eat

Cat

After Quick SortCat

Cow

Dog

Eat

Binary Search

```java
import java.util.Scanner;class
Main{
 int binarySearch(int array[], int
element, int low, int high){
 while (low <= high)
{
int mid = low + (high - low) / 2;if
(array[mid] == element) return mid;
if (array[mid] < element)low =
mid + 1;
else
high = mid - 1;
}
return -1;
}
public static void main(String args[])
{
Main obj = new Main();
int[] array = { 3, 4, 5, 6, 7, 8, 9 };
int n = array.length;
Scanner input = new Scanner(System.in); System.out.println("Enter
element to be searched:");int element = input.nextInt();
input.close();
int result = obj.binarySearch(array, element, 0, n - 1);if (result == -1)
System.out.println("Not found");else
System.out.println("Element found at index " + result);
}}
```

OUTPUT

user@user-HCL-Desktop:~$ cd Desktop

user@user-HCL-Desktop:~/Desktop$ javac Main.javauser@user-HCL-

Desktop:~/Desktop$ java Main Enter element to be searched:

6

Element found at index 3

```java
import java.awt.Color;import
java.awt.*;
import java.awt.event.ItemEvent; import
java.awt.event.ItemListener;import
javax.swing.*;
class App extends JFrame implements ItemListener
{
JFrame actualWindow;
JPanel messageContainer, lightsContainer;JLabel
message;
ButtonGroup btn_group;
JRadioButton rb_red, rb_yellow, rb_green;App()
{
Font myFont = new Font("Verdana",Font.BOLD, 30);actualWindow =
new JFrame("Traffic Lights"); messageContainer = new JPanel();
lightsContainer = new JPanel(); message = new
JLabel("Select Light");btn_group = new
ButtonGroup(); rb_red = new
JRadioButton("Red");
rb_yellow = new JRadioButton("Yellow"); rb_green = new
JRadioButton("Green"); actualWindow.setLayout(new
GridLayout(2, 1));message.setFont(myFont);
rb_red.setForeground(Color.RED);

rb_yellow.setForeground(Color.YELLOW);
rb_green.setForeground(Color.GREEN); btn_group.add(rb_red);
btn_group.add(rb_yellow); btn_group.add(rb_green);
rb_red.addItemListener(this); rb_yellow.addItemListener(this);
rb_green.addItemListener(this); messageContainer.add(message);
lightsContainer.add(rb_red); lightsContainer.add(rb_yellow);
lightsContainer.add(rb_green);
actualWindow.add(messageContainer);
actualWindow.add(lightsContainer); actualWindow.setSize(300,
200); actualWindow.setVisible(true);
}
public void itemStateChanged(ItemEvent ie)
```

```java
{
JRadioButton selected = (JRadioButton) ie.getSource();String

textOnButton = selected.getText(); if(textOnButton.equals("Red"))

{
message.setForeground(Color.RED);

message.setText("STOP");

}
else if(textOnButton.equals("Yellow"))
{
message.setForeground(Color.YELLOW);message.setText("READY");

}
else
{
message.setForeground(Color.GREEN);message.setText("GO");

}
}
}
public class TrafficLight
{
public static void main(String[] args)
{
new App();

}
}
```

OUTPUT

user@user-HCL-Desktop:~$ cd Desktop

user@user-HCL-Desktop:~/Desktop$ javac TrafficLight.javauser@user-HCL-

Desktop:~/Desktop$ java TrafficLight

```java
import java.awt.*; import
java.awt.event.*;
class MyCalc extends WindowAdapter implements ActionListener
{
Frame f;
Label l1;
Button b1,b2,b3,b4,b5,b6,b7,b8,b9,b0;
Button  badd,bsub,bmult,bdiv,bmod,bcalc,bclr,bpts,bneg,bback;double xd;
double num1,num2,check;
MyCalc(){
f= new Frame("MY CALCULATOR");
l1=new Label(); l1.setBackground(Color.LIGHT_GRAY);
l1.setBounds(50,50,260,60);
b1=new Button("1");
b1.setBounds(50,340,50,50);
b2=new Button("2");
b2.setBounds(120,340,50,50);
b3=new Button("3");
b3.setBounds(190,340,50,50);
b4=new Button("4");
b4.setBounds(50,270,50,50);
b5=new Button("5");
b5.setBounds(120,270,50,50);
b6=new Button("6");
b6.setBounds(190,270,50,50);
b7=new Button("7");
b7.setBounds(50,200,50,50);
 b8=new Button("8");
b8.setBounds(120,200,50,50);
 b9=new Button("9");
b9.setBounds(190,200,50,50);
b0=new Button("0");
b0.setBounds(120,410,50,50);
 bneg=new Button("+/-");
```

```java
bneg.setBounds(50,410,50,50);

 bpts=new Button(".");

bpts.setBounds(190,410,50,50);

bback=new Button("back");

bback.setBounds(120,130,50,50);

badd=new Button("+");

badd.setBounds(260,340,50,50);

 bsub=new Button("-");

bsub.setBounds(260,270,50,50);

 bmult=new Button("*");

bmult.setBounds(260,200,50,50);

bdiv=new Button("/");

bdiv.setBounds(260,130,50,50);

bmod=new Button("%");

bmod.setBounds(190,130,50,50);

bcalc=new Button("=");

bcalc.setBounds(245,410,65,50);

bclr=new Button("CE");

bclr.setBounds(50,130,65,50);

b1.addActionListener(this);

b2.addActionListener(this);

b3.addActionListener(this);

b4.addActionListener(this);

b5.addActionListener(this);

b6.addActionListener(this);

b7.addActionListener(this);

b8.addActionListener(this);

b9.addActionListener(this);

b0.addActionListener(this);

bpts.addActionListener(this);

bneg.addActionListener(this);

bback.addActionListener(this);

badd.addActionListener(this);

bsub.addActionListener(this);

bmult.addActionListener(this);

bdiv.addActionListener(this);
```

```java
bmod.addActionListener(this);

bcalc.addActionListener(this);

bclr.addActionListener(this);

f.addWindowListener(this); f.add(l1);

f.add(b1); f.add(b2);

f.add(b3); f.add(b4);

f.add(b5);f.add(b6);
f.add(b7); f.add(b8);f

.add(b9);f.add(b0);

f.add(badd); f.add(bsub);

f.add(bmod); f.add(bmult); f

.add(bdiv); f.add(bmod);

f.add(bcalc);

f.add(bclr); f.add(bpts);

f.add(bneg); f.add(bback);

f.setSize(360,500);

f.setLayout(null);

f.setVisible(true);

}

public void windowClosing(WindowEvent e)

{

f.dispose();

}

public void actionPerformed(ActionEvent e)

{

String z,zt;

if(e.getSource()==b1)

{

zt=l1.getText();

z=zt+"1";

l1.setText(z);

}

if(e.getSource()==b2)

{

zt=l1.getText();

z=zt+"2";
```

```
l1.setText(z);

}

if(e.getSource()==b3)

{

zt=l1.getText();

z=zt+"3";

l1.setText(z);

}

if(e.getSource()==b4)

{

zt=l1.getText();

z=zt+"4";

l1.setText(z);

}

if(e.getSource()==b5)

{

zt=l1.getText();

z=zt+"5";

l1.setText(z);

}

if(e.getSource()==b6)

{

zt=l1.getText();

z=zt+"6";

l1.setText(z);

}

if(e.getSource()==b7)

{

zt=l1.getText();

z=zt+"7";

l1.setText(z);

}

if(e.getSource()==b8)

{

zt=l1.getText();
```

```java
z=zt+"8";

l1.setText(z);

}

if(e.getSource()==b9)

{

zt=l1.getText();

z=zt+"9";

l1.setText(z);

}

if(e.getSource()==b0)

{

zt=l1.getText();

z=zt+"0";

l1.setText(z);

}

if(e.getSource()==bpts)

{
zt=l1.getText();

z=zt+".";

l1.setText(z);

}

if(e.getSource()==bneg)

{

zt=l1.getText();z="-
"+zt; l1.setText(z);

}

if(e.getSource()==bback)

{

zt=l1.getText();try{

z=zt.substring(0, zt.length()-1);

}

catch(StringIndexOutOfBoundsException f)

{

return;

}

l1.setText(z);
```

```java
}

if(e.getSource()==badd)

{

try{ num1=Double.parseDouble(l1.getText());

}
catch(NumberFormatException f)

{

l1.setText("Invalid Format");return;

} z="";

l1.setText(z);

check=1;

}

if(e.getSource()==bsub)

{

try{ num1=Double.parseDouble(l1.getText());

}

catch(NumberFormatException f)

{

l1.setText("Invalid Format");return;

} z="";

l1.setText(z);

check=2;

}

if(e.getSource()==bmult)

{

try{ num1=Double.parseDouble(l1.getText());

}catch(NumberFormatException f){

l1.setText("Invalid  Format"); return;

} z="";

l1.setText(z);

check=3;

}

if(e.getSource()==bdiv)

{ try

{
```

```java
num1=Double.parseDouble(l1.getText());

}catch(NumberFormatException f){

l1.setText("Invalid  Format"); return;

} z="";

l1.setText(z);

check=4;

}

if(e.getSource()==bmod)

{

try{ num1=Double.parseDouble(l1.getText());

}catch(NumberFormatException f){

l1.setText("Invalid  Format"); return;

} z="";

l1.setText(z);

check=5;

}

if(e.getSource()==bcalc){try{

num2=Double.parseDouble(l1.getText());

}catch(Exception f){

l1.setText("ENTER NUMBER FIRST ");

return;

}

if(check==1)

xd =num1+num2;

if(check==2)

xd =num1-num2;

if(check==3)

xd =num1*num2;

if(check==4)

xd =num1/num2;

if(check==5)

xd =num1%num2;

l1.setText(String.valueOf(xd));

}

if(e.getSource()==bclr){

num1=0;
```

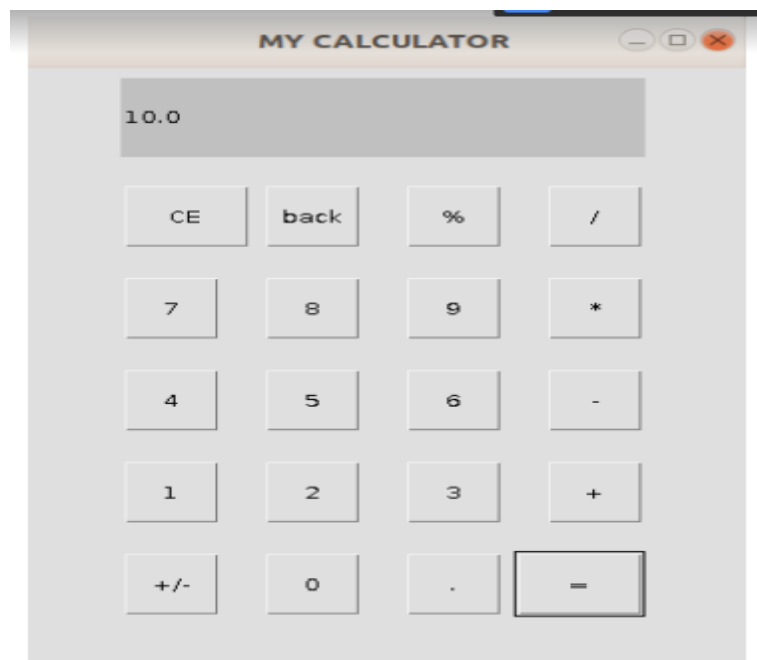```java
num2=0;

check=0;

xd=0; z="";

l1.setText(z);

}

}

public static void main(String args[]){new

MyCalc();

}

}
```

OUTPUT

user@user-HCL-Desktop:~$ cd Desktop

user@user-HCL-Desktop:~/Desktop$ javac MyCalc.javauser@user-HCL-

Desktop:~/Desktop$ java MyCalc

Thread Synchronization

```java
class Display{

public synchronized void print(String msg){

System.out.println("["+msg);

try{ Thread.sleep(1000);

}

catch(Exception e){

System.out.println(e.getMessage());

}
System.out.println("]");
}}
class SyncThread extends Thread{private

Display d;

private String msg;

public SyncThread(Display d, String msg){this.d=d;

this.msg=msg;

}

public void run(){

d.print(msg);

}}

class Test1{

public static void main(String[] args){Display

d=new Display();

SyncThread t1=new SyncThread(d,"Hello"); SyncThread

t2=new SyncThread(d,"World");t1.start();

t2.start();

}
}
```

OUTPUT

user@user-HCL-Desktop:~/Desktop/Soumya$ javac Test1.javauser@user-HCL-

Desktop:~/Desktop/Soumya$ java Test1 [Hello

]

[World]

```java
import java.util.Random;

class EvenThread extends Thread

{

private int num;

public EvenThread(int num)

{

this.num=num;

}

public void run()

{

System.out.println("Square of"+num+"="+num*num);

}

}

class OddThread extends Thread

{

private int num;

public OddThread(int num)

{

this.num=num;

}

public void run()

{

System.out.println("Cube of"+num+"="+num*num*num);

}

}
class RandomThread extends Thread

{

public void run()

{

Random r=new Random();for(int

i=0;i<10;i++){

int num=r.nextInt(100);if(num

% 2==0){

new EvenThread(num).start();
```

```
}

else{

new OddThread(num).start();

}

}

}

}

class Test

{

public static void main(String[] args){ RandomThread

r=new RandomThread();r.start();

}

}
```

OUTPUT

user@user-HCL-Desktop:~$ cd Desktop user@user-HCL-

Desktop:~/Desktop$ cd Soumya

user@user-HCL-Desktop:~/Desktop/Soumya$ javac Test.javauser@user-HCL-

Desktop:~/Desktop/Soumya$ java Test Cube of95=857375

Cube of13=2197

 Cube of49=117649

Cube of51=132651

Cube of33=35937

Cube of43=79507

Square of10=100

Cube of49=117649

Cube of21=9261

Square of24=576

Read from a file and write to file using Exceptions

```java
import java.io.*;class

Test4 {

public static void main(String[] args){try{

FileReader fin=new FileReader("test.txt"); FileWriter

fout=new FileWriter("copy.txt");int i;

while((i=fin.read())!=-1){

fout.write(i);

}

fin.close();

fout.close();

}

catch(IOException e){

System.out.println(e.getMessage());

}

}

}
```

OUTPUT

mzist@mzist-HCL-Desktop:~/Desktop/Soumya$ javac Test3.javamzist@mzist-HCL-

Desktop:~/Desktop/Soumya$ java Test3

The text.txt file is coppied to copy.txt

Usage of try, catch, throws and finally

```java
import java.util.Scanner;class
Test6
{
public static void main(String[] args)
{
Scanner sc=new Scanner(System.in);try{
System.out.println("Program to perform Division");
System.out.println("Enter Number-1:");
int a=sc.nextInt(); System.out.println("Enter the Number-
2:");int b=sc.nextInt();
int c=a/b; System.out.println("Result="+c);
}
catch(ArithmeticException e)
{
System.out.println(e.getMessage());
}
finally
{
System.out.println("End of Operation");
}
}
}
```

OUTPUT

mzist@mzist-HCL-Desktop:~$ cd Desktop mzist@mzist-HCL-

Desktop:~/Desktop$ cd Soumya

mzist@mzist-HCL-Desktop:~/Desktop/Soumya$ javac Test6.javamzist@mzist-HCL-

Desktop:~/Desktop/Soumya$ java Test6 Program to perform Division

Enter Number-1:120

Enter the Number-2:20

Result=6

End of Operation

Abstract class using polymorphism

```java
abstract class Shape
{
public abstract void numberOfSides();
}
class Rectangle extends Shape
{
public void numberOfSides()
{
System.out.println("Number of Sides=4");
}}
class Triangle extends Shape
{
public void numberOfSides()
{
System.out.println("Number of Sides=3");
}}
class Hexagon extends Shape
{
public void numberOfSides()
{
System.out.println("Number of Sides=6");
}}
class polymorphism
{
public static void main(String args[])
{
Rectangle r=new Rectangle();Triangle
t=new Triangle(); Hexagon h=new
Hexagon(); r.numberOfSides();
t.numberOfSides(); h.numberOfSides();
}}
```

OUTPUT

mzist@mzist-HCL-Desktop:~$ cd Desktop mzist@mzist-HCL-

Desktop:~/Desktop$ cd jeena

mzist@mzist-HCL-Desktop:~/Desktop/jeena$ javac polymorphism.javamzist@mzist-HCL-

Desktop:~/Desktop/jeena$ java polymorphism Number of Sides=4

Number of Sides=3

Number of Sides=6

OUTPUT

mzist@mzist-HCL-Desktop:~/Desktop/jeena$Name:Sudheesh

Age:18

Number:5678433688

Address:Thiruvalla Salary:50000.0

Specialization:Computer Science

Department:CSE

Enter the manager's DetailName:

Soumya

Address:Chengannur

Specialization:Computer Science

Department:CSE

Age:

19

Number:8282517793

Salary:50000

The manager's Detail

Name:Soumya Age:19

Number:8282517793

Address:Chengannur Salary:50000.0

Specialization:Computer Science

Department:CSE

<center>'Employee' using inheritance</center>

```java
import java.util.Scanner;class

Employee

{

private String name;private

int age;

private long phoneNumber;private

String address; private double

salary;

public void setName(String name)

{

this.name=name;

}

public void setAge(int age){

this.age=age;

}

public void setPhoneNumber(long phoneNumber)

{

this.phoneNumber=phoneNumber;

}

public void setAddress(String address){

this.address=address;

}

public void setSalary(double salary)

{

this.salary=salary;

}
public double printSalary()

{

return salary;

}

public String getName()

{

return name;

}
```

```java
public int getAge()

{

return age;

}

public String getAddress()

{

return address;

}

public long getPhoneNumber()

{

return phoneNumber;

}

}

class Officer extends Employee

{

private String specialization;private

String department;

public void setSpecialization(String specialization)

{

this.specialization=specialization;

}

public void setDepartment(String department)

{

this.department=department;

}

public String getDepartment(){return

department;

}

public String getSpecialization(){return

specialization;

}

}

class Manager extends Employee

{

private String specialization;private
```

```java
String department;

public void setSpecialization(String specialization)

{

this.specialization=specialization;

}

public void setDepartment(String department){

this.department=department;

}

public String getDepartment(){return

department;

}
public String getSpecialization(){return

specialization;

}

}

class Test1{

public static void main(String[] args){Scanner

sc=new Scanner(System.in); Officer o=new

Officer();

System.out.println("Enter the officer's Detail");

System.out.println("Name:"); o.setName(sc.nextLine());

System.out.println("Address:"); o.setAddress(sc.nextLine());

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

o.setSpecialization(sc.nextLine());

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

o.setDepartment(sc.nextLine()); System.out.println("Age:");

o.setAge(sc.nextInt()); System.out.println("Number:");

o.setPhoneNumber(sc.nextLong());

System.out.println("Salary:"); o.setSalary(sc.nextDouble());

sc.nextLine();

System.out.println("The officer Detail");

System.out.println("Name:"+o.getName());

System.out.println("Age:"+o.getAge());

System.out.println("Number:"+o.getPhoneNumber());

System.out.println("Address:"+o.getAddress());

System.out.println("Salary:"+o.printSalary());
```

```java
System.out.println("Specialization:"+o.getSpecialization());

System.out.println("Department:"+o.getDepartment()); Manager m=new

Manager();

System.out.println("Enter the manager's Detail");

System.out.println("Name:"); m.setName(sc.nextLine());

System.out.print("Address:"); m.setAddress(sc.nextLine());

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

m.setSpecialization(sc.nextLine());

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

m.setDepartment(sc.nextLine()); System.out.println("Age:");

m.setAge(sc.nextInt()); System.out.print("Number:");

m.setPhoneNumber(sc.nextLong()); System.out.print("Salary:");

m.setSalary(sc.nextDouble());

sc.nextLine();

System.out.println("The manager's Detail"); System.out.println("Name:"+m.getName());

System.out.println("Age:"+m.getAge()); System.out.println("Number:"+m.getPhoneNumber());

System.out.println("Address:"+m.getAddress());

System.out.println("Salary:"+m.printSalary()); System.out.println("Specialization:"+m.getSpecialization());

System.out.println("Department:"+m.getDepartment());

}
}
```

String is a palindrome or not

```java
import java.util.Scanner;class
Test
{
public static void main(String args[])
{
Scanner sc = new Scanner(System.in);
System.out.print("Enter the String:"); String str =
sc.nextLine();
int flag = 0;
int len = str.length(); for(int
i=0;i<len/2;i++){
if(str.charAt(i) != str.charAt(len-i-1))
{
flag = 1;
break;


} }
if(flag == 0){ System.out.println("Palindrome");
}
else{
System.out.println("Not Palindrome");
}
}
}
```


OUTPUT

mzist@mzist-HCL-Desktop:~$ cd jeena

mzist@mzist-HCL-Desktop:~/jeena$ javac palindrome.javamzist@mzist-HCL-

Desktop:~/jeena$ java Test

Enter the String:malayalam

Palindrome

mzist@mzist-HCL-Desktop:~/jeena$ java TestEnter the

String: rose

Not Palindrome

Frequency of a given Character

```java
import java.util.Scanner;public

class string

{

public static void main(String[] args)

{

String str = "This website is awesome.";char ch = 'e';

int frequency = 0;

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

{

if(ch == str.charAt(i))

{

++frequency;

}

}

System.out.println("Frequency of " + ch + " = " + frequency);

}

}
```

OUTPUT

mzist@mzist-HCL-Desktop:~$ cd Desktop mzist@mzist-HCL-

Desktop:~/Desktop$ cd jeena

mzist@mzist-HCL-Desktop:~/Desktop/jeena$ javac string.javamzist@mzist-HCL-

Desktop:~/Desktop/jeena$ java string Frequency of e = 4

Multiply Two Matrices

```java
import java.util.Scanner;public

class matrix{

public static void main(String args[])

{

int a[][]={{1,1,1},{2,2,2},{3,3,3}};

int b[][]={{1,1,1},{2,2,2},{3,3,3}};

int c[][]=new int[3][3];for(int

i=0;i<3;i++)

{

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

{ c[i][j]=0;

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

{

c[i][j]+=a[i][k]*b[k][j];

}

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

}

System.out.println();

}

}

}
```

OUTPUT

mzist@mzist-HCL-Desktop:~$ cd Desktop mzist@mzist-HCL-

Desktop:~/Desktop$ cd jeena

mzist@mzist-HCL-Desktop:~/Desktop/jeena$ javac matrix.javamzist@mzist-HCL-

Desktop:~/Desktop/jeena$

6 6 6

12 12 12

18 18 18

Reads a line of integer and display each integer and sum of integerimport java.util.*;

```java
class StringTokenizerDemo
{
public static void main(String args[])
 {
int n;
int sum = 0;
Scanner sc = new Scanner(System.in); System.out.println("Enter integers
with one space gap:");String s = sc.nextLine();
StringTokenizer st = new StringTokenizer(s, " ");while
(st.hasMoreTokens()) {
String temp = st.nextToken();n =
Integer.parseInt(temp);
System.out.println(n);
sum = sum + n;
}
System.out.println("sum of the integers is: " + sum);sc.close();
}
}
```

OUTPUT:

mzist@mzist-HCL-Desktop:~$ cd Desktop mzist@mzist-HCL-

Desktop:~/Desktop$ cd jeena

mzist@mzist-HCL-Desktop:~/Desktop/jeena$ javac StringTokenizerDemo .javamzist@mzist-HCL-

Desktop:~/Desktop/jeena$java StringTokenizerDemo

Enter integers with one space gap:10 20 30

40 50

10

20

30

40

50

sum of the integers is: 150