**Medicaps Institute of Technology and Management**



**Session: 2015-2016**

**Subject: Operating System**

**Assignment 2 :Os simulator**

**Guided by: Submitted by:**

**Mrs. Khushboo Goyal Lokesh Dhanger**

**Enroll. No. : 0812CS131063**

**Meetika Rajdev**

**Enroll. No. :0812CS131066**

**Monesh Sanvaliya**

**Enroll. No. : 0812CS131067**

**Pratiksha Samvatsar**

**Enroll. No. : 0812CS131080**

**Index**

**Topic Pg no**

1. **Introduction 1**
2. **Code 2-5**
3. **Screenshots of design 6-7**

**Introduction :**

OS Sim (Operating System Concepts Simulator) is an educational purpose application to graphically simulate Operating System concepts and support the computer science students learning process.

It graphically simulates concepts of

* process management
* disk management
* c p u management
* File management

Difference between Os sim and designed os sim simulator:

* Our designed simulator calculates head count,but the original os sim simulator doesn’t
* A single frame is used to input start head,inputs and graph whereas in the original os sim simulator a different frame is used for input and a panel for graph

**Code 1:**

public class Disk1 extends javax.swing.JFrame {

int sum=0;

ArrayList<Integer> calc=new ArrayList<Integer>();

ArrayList<Integer> disk1=new ArrayList<Integer>();

ArrayList<Integer> disk=new ArrayList<Integer>();setDefaultCloseOperation(javax.swing.WindowConstants.EXIT\_ON\_CLOSE);

setBackground(new java.awt.Color(255, 255, 255));

jPanel2.setOpaque(false);

jLabel1.setText("Initial Head Position");

jLabel2.setText("Sector");

jButton1.setText("Done");

jButton1.addActionListener(new java.awt.event.ActionListener() {

public void actionPerformed(java.awt.event.ActionEvent evt) {

jButton1ActionPerformed(evt);

}

});

jButton2.setText("Add");

jButton2.addMouseListener(new java.awt.event.MouseAdapter() {

public void mouseClicked(java.awt.event.MouseEvent evt) {

jButton2MouseClicked(evt);

}

});

int diskHead;

public Disk1() {

initComponents();

jPanel2.setVisible(false);

jButton3.setVisible(false);

jButton4.setVisible(false);

// jPanel1.setVisible(false);

}

private void jButton2MouseClicked(java.awt.event.MouseEvent evt) {//GEN-FIRST:event\_jButton2MouseClicked

int text1=(int) jSpinner2.getValue();

disk.add(text1);

jSpinner2.setValue(0);

}//GEN-LAST:event\_jButton2MouseClicked

private void jButton2ActionPerformed(java.awt.event.ActionEvent evt) {//GEN-FIRST:event\_jButton2ActionPerformed

// TODO add your handling code here:

}//GEN-LAST:event\_jButton2ActionPerformed

private void jLabel5MouseClicked(java.awt.event.MouseEvent evt) {//GEN-FIRST:event\_jLabel5MouseClicked

jPanel2.setVisible(true);

}//GEN-LAST:event\_jLabel5MouseClicked

private void jButton3ActionPerformed(java.awt.event.ActionEvent evt) {//GEN-FIRST:event\_jButton3ActionPerformed

disk.add(0,diskHead);

//System.out.println(""+diskHead);

for(int i=0;i<disk.size()-1;i++)

{

int item=disk.get(i);

int temp=diskHead-item;

if(temp<0)

temp=temp\*(-1);

sum=sum+temp;

diskHead=item;

calc.add(temp);

}

jLabel3.setText(String.valueOf(sum));

}

private void jButton4ActionPerformed(java.awt.event.ActionEvent evt) {

MyCanvas obj =new MyCanvas();

obj.getValue(disk);

jPanel1.add(obj);

jPanel1.setSize(200,200);

}

class MyCanvas extends Canvas {

ArrayList<Integer> disk=new ArrayList<>();

public MyCanvas () {

setBackground (Color.LIGHT\_GRAY);

setSize(400, 400);

}

void getValue(ArrayList<Integer> disk)

{

this.disk=disk;

}

@Override

public void paint (Graphics g) {

Graphics2D g2;

g2 = (Graphics2D) g;

g2.drawString ("", 70, 70);

int width,height;

width=getSize().width;

height=getSize().height;

int a,b;

int row=10,coloum=10;

int colSpace=width/coloum;

int rowSpace=height/row;

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

{

g.drawLine(i\*rowSpace,0,i\*rowSpace,width);

}

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

{

g.drawLine(0,i\*colSpace,height,i\*colSpace);

}

for(int i=0;i<disk.size()-1;i++)

{a=disk.get(i);

b=disk.get(i+1);

System.out.println(a+" "+ b);

g.drawLine(a\*2,i\*10,b\*2,10\*(i+1));

}

}

}

