package Trabson;

import java.awt.EventQueue;

import java.awt.Font;

import java.awt.event.ActionEvent;

import java.awt.event.ActionListener;

import java.io.BufferedReader;

import java.io.File;

import java.io.FileNotFoundException;

import java.io.FileReader;

import java.io.IOException;

import java.nio.file.Files;

import java.nio.file.Path;

import java.nio.file.Paths;

import java.util.ArrayList;

import javax.swing.JButton;

import javax.swing.JFileChooser;

import javax.swing.JFrame;

import javax.swing.JLabel;

import javax.swing.JOptionPane;

import javax.swing.JPanel;

import javax.swing.JRadioButton;

import javax.swing.JScrollPane;

import javax.swing.JTextArea;

import javax.swing.border.EmptyBorder;

import javax.swing.JTextField;

public class Algoritmos extends JFrame {

private JPanel contentPane;

JRadioButton rdbtnCutRod, rdbtnGreedyActivitySelection,rdbtnBottomUpCut,rdbtnMemoizedCutRod;

Path path;

File file;

private JTextField tamanho;

JTextArea texto;

int[] vetor, vetorF, aux, auxI;

int n;

String var = "";

JTextArea resultado;

public static void main(String[] args) {

EventQueue.invokeLater(new Runnable() {

public void run() {

try {

Algoritmos frame = new Algoritmos();

frame.setVisible(true);

} catch (Exception e) {

e.printStackTrace();

}

}

});

}

public Algoritmos() {

setTitle("T R A B S O N");

setDefaultCloseOperation(JFrame.EXIT\_ON\_CLOSE);

setBounds(100, 100, 450, 300);

contentPane = new JPanel();

contentPane.setBorder(new EmptyBorder(5, 5, 5, 5));

setContentPane(contentPane);

contentPane.setLayout(null);

JLabel lblAnliseDeAlgoritmos = new JLabel("Análise de Algoritmos");

lblAnliseDeAlgoritmos.setFont(new Font("Tahoma", Font.BOLD, 20));

lblAnliseDeAlgoritmos.setBounds(106, 11, 225, 30);

contentPane.add(lblAnliseDeAlgoritmos);

JLabel lblTamanho = new JLabel("Tamanho");

lblTamanho.setBounds(348, 48, 64, 14);

contentPane.add(lblTamanho);

tamanho = new JTextField();

tamanho.setBounds(338, 62, 86, 20);

contentPane.add(tamanho);

tamanho.setColumns(10);

rdbtnMemoizedCutRod = new JRadioButton("Memoized Cut Rod");

rdbtnMemoizedCutRod.addActionListener(new ActionListener() {

public void actionPerformed(ActionEvent e) {

rdbtnCutRod.setSelected(false);

rdbtnBottomUpCut.setSelected(false);

rdbtnGreedyActivitySelection.setSelected(false);

}

});

rdbtnMemoizedCutRod.setBounds(22, 48, 139, 23);

contentPane.add(rdbtnMemoizedCutRod);

rdbtnBottomUpCut = new JRadioButton("Bottom Up Cut Rod");

rdbtnBottomUpCut.addActionListener(new ActionListener() {

public void actionPerformed(ActionEvent e) {

rdbtnMemoizedCutRod.setSelected(false);

rdbtnCutRod.setSelected(false);

rdbtnGreedyActivitySelection.setSelected(false);

}

});

rdbtnBottomUpCut.setBounds(163, 48, 134, 23);

contentPane.add(rdbtnBottomUpCut);

rdbtnGreedyActivitySelection = new JRadioButton("Greedy Activity Selection");

rdbtnGreedyActivitySelection.addActionListener(new ActionListener() {

public void actionPerformed(ActionEvent e) {

rdbtnMemoizedCutRod.setSelected(false);

rdbtnCutRod.setSelected(false);

rdbtnBottomUpCut.setSelected(false);

}

});

rdbtnGreedyActivitySelection.setBounds(163, 77, 168, 23);

contentPane.add(rdbtnGreedyActivitySelection);

rdbtnCutRod = new JRadioButton("Cut Rod");

rdbtnCutRod.addActionListener(new ActionListener() {

public void actionPerformed(ActionEvent arg0) {

rdbtnMemoizedCutRod.setSelected(false);

rdbtnBottomUpCut.setSelected(false);

rdbtnGreedyActivitySelection.setSelected(false);

}

});

rdbtnCutRod.setBounds(22, 77, 109, 23);

contentPane.add(rdbtnCutRod);

texto = new JTextArea();

texto.setBounds(10, 140, 212, 112);

contentPane.add(texto);

JScrollPane scroll = new JScrollPane(texto);

scroll.setBounds(10, 140, 212, 112);

contentPane.add(scroll);

resultado = new JTextArea();

resultado.setFont(new Font("Tahoma", Font.PLAIN, 40));

resultado.setBounds(233, 140, 191, 111);

contentPane.add(resultado);

JButton botao = new JButton("Importar");

botao.addActionListener(new ActionListener() {

public void actionPerformed(ActionEvent e) {

JFileChooser c = new JFileChooser();

c.showOpenDialog(null);

file = c.getSelectedFile();

try{

path = Paths.get(file.getAbsolutePath());

String retorno = new String(Files.readAllBytes(path));

texto.setText(retorno);

} catch(Exception erro){

JOptionPane.showMessageDialog(null, "Não conseguimos carregar seu arquivo");

}

}

});

botao.setBounds(64, 106, 89, 23);

contentPane.add(botao);

JButton botaoDois = new JButton("Gerar Resultado");

botaoDois.addActionListener(new ActionListener() {

public void actionPerformed(ActionEvent e) {

if(rdbtnMemoizedCutRod.isSelected()){

lerArquivo();

String x = Integer.toString(memoizedCutRod(vetor, n));

resultado.setText(x);

}else if(rdbtnBottomUpCut.isSelected()){

lerArquivo();

String x = Integer.toString(bottonUpCutRod(vetor, n));

resultado.setText(x);

}else if(rdbtnCutRod.isSelected()){

lerArquivo();

String x = Integer.toString(cutRod(vetor, n));

resultado.setText(x);

}else if(rdbtnGreedyActivitySelection.isSelected()){

lerArquivoDois();

n = vetor.length;

greedyActivitySelection(vetor, vetorF, n);

}else{

JOptionPane.showMessageDialog(null, "ERRO");

}

}

});

botaoDois.setBounds(266, 107, 128, 23);

contentPane.add(botaoDois);

}