**Lab Exercise 6**

**AIM: Java AWT frames**

import java.awt.\*;

import java.awt.event.\*;

import java.io.File;

import java.io.FileNotFoundException;

import java.util.ArrayList;

import java.util.Scanner;

public class Text extends Frame implements ActionListener{

Frame f= new Frame("Word Prediction");

TextField tf1,tf2,tf3,tf4,tf5,tf6;

Button b;

Text(){

tf1 = new TextField("Enter the word by gliding your fingers");

tf1.setBounds(50,50,300,20);

tf1.setEditable(false);

tf2=new TextField();

tf2.setBounds(50,100,300,20);

tf3=new TextField();

tf3.setBounds(50,200,100,20);

tf3.setEditable(false);

tf4=new TextField();

tf4.setBounds(200,200,100,20);

tf4.setEditable(false);

tf5=new TextField();

tf5.setBounds(50,250,100,20);

tf5.setEditable(false);

tf6=new TextField();

tf6.setBounds(200,250,100,20);

tf6.setEditable(false);

b = new Button("Predict");

b.setBounds(50,150,300,20);

b.addActionListener(this);

f.add(tf1);f.add(tf2);f.add(tf3);f.add(tf4);f.add(tf5);f.add(tf6);f.add(b);

f.setSize(300,300);

f.setLayout(null);

f.setVisible(true);}

public void actionPerformed(ActionEvent e){

ArrayList<String> inputs = new ArrayList<String>();

String s1 = tf2.getText();

inputs.add(s1);

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

for (String input : inputs) {

ArrayList<String> WordsList = findWords(input);

int size = WordsList.size();

switch (size){

case 0:

tf3.setText("WORD");

tf4.setText("DOES");

tf5.setText("NOT");

tf6.setText("EXIST");

break;

case 1:

String res01 = WordsList.get(0);

tf3.setText(res01);

tf4.setText("----");

tf5.setText("----");

tf6.setText("----");

break;

case 2:

String res11 = WordsList.get(0);

String res12 = WordsList.get(1);

tf3.setText(res11);

tf4.setText(res12);

tf5.setText("----");

tf6.setText("----");

break;

case 3:

String res21 = WordsList.get(0);

String res22 = WordsList.get(1);

String res23 = WordsList.get(2);

tf3.setText(res21);

tf4.setText(res22);

tf5.setText(res23);

tf6.setText("----");

break;

case 4:

String res31 = WordsList.get(0);

String res32 = WordsList.get(1);

String res33 = WordsList.get(2);

String res34 = WordsList.get(3);

tf3.setText(res31);

tf4.setText(res32);

tf5.setText(res33);

tf6.setText(res34);

break;}}}}

public static ArrayList<String> findWords(String input) {

String firstLetter = input.substring(0, 1);

String lastLetter = input.substring(input.length() - 1);

ArrayList<String> choices = getChoices(firstLetter, lastLetter);

ArrayList<String> matches = new ArrayList<String>();

for (String choice : choices) {

String inputCopy = input;

String choiceCopy = choice;

while (inputCopy.length() > 0 && choiceCopy.length() > 0) {

if (inputCopy.charAt(0) == choiceCopy.charAt(0)) {

if (choiceCopy.length() >= 2 && choiceCopy.charAt(0) == choiceCopy.charAt(1)) {choiceCopy = choiceCopy.substring(2);} else {

choiceCopy = choiceCopy.substring(1);

}}inputCopy = inputCopy.substring(1);

}if (choiceCopy.isEmpty()) {

matches.add(choice);

}}return matches;}

public static ArrayList<String> getChoices(String firstLetter, String lastLetter) {

ArrayList<String> strings = new ArrayList<String>();

Scanner scanner = null;

try {scanner = new Scanner(new File("enable1.txt"));

while (scanner.hasNextLine()) {

String word = scanner.nextLine();

if (word.length() >= 5 && word.substring(0, 1).equals(firstLetter)

&& word.substring(word.length() - 1).equals(lastLetter)) {

strings.add(word);}}

} catch (FileNotFoundException e) {

e.printStackTrace();

} finally {

if (scanner != null) {scanner.close();}

}return strings;}

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

