**TITLE PAGE**

**Course:** CS1073

**Section:** FR03B

**Lab number:** 6

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StringGenerator.java:

/\*\*

This is a class that represents a String Generator that generates acronyms

and passwords.

@author Zohaib Khan 3704572

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import java.util.Scanner;

public class StringGenerator {

public static String generateAcronym(String text){

Scanner sc = new Scanner (text);

String output = "";

while (sc.hasNext()){

String token = sc.next();

char c = token.charAt(0);

if (Character.isUpperCase(c)){

output = output + c;

}

else if (Character.isDigit(c)){

output = output + token;

}

}

return output;

}

public static String generatePassword(String text){

Scanner sc = new Scanner (text);

String pw1 = "";

String pw2 = "";

int counter = 0;

while(sc.hasNext()){

String token = sc.next();

if (token.length() >= 3){

counter++;

if (counter%2 == 0){

String evenWord = token.toUpperCase();

for (int i=0; i<2; i++){

char c1 = evenWord.charAt(i);

pw1 = pw1 + c1;

}

}

else {

String oddWord = token.toLowerCase();

for (int j= oddWord.length()-2;

j < oddWord.length();j++){

char c2 = oddWord.charAt(j);

pw1 = pw1 + c2;

}

}

for (int k=0; k< pw1.length(); k++){

char c3 = pw1.charAt(k);

char c4;

boolean hasExceptions = false;

if (c3 == 'B'){

c4 = '3';

pw2 = pw1.substring(0,k)

+ c4

+ pw1.substring(k+1);

hasExceptions = true;

}

else if (c3 == 'H'){

c4 = '#';

pw2 = pw1.substring(0,k)

+ c4

+ pw1.substring(k+1);

hasExceptions = true;

}

else if (c3 == 'a'){

c4 = '@';

pw2 = pw1.substring(0,k)

+ c4

+ pw1.substring(k+1);

hasExceptions = true;

}

else if (c3 == 't'){

c4 = '+';

pw2 = pw1.substring(0,k)

+ c4

+ pw1.substring(k+1);

hasExceptions = true;

}

if (hasExceptions){

pw1 = pw2;

}

else {

pw2 = pw1;

}

}

}

}

return pw2;

}

}

Graphics.java:

/\*\*

This is a GUI application program for an acronym or password generator.

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\*/

import javafx.application.Application;

import javafx.stage.Stage;

import javafx.scene.Scene;

import javafx.scene.control.Label;

import javafx.scene.control.TextField;

import javafx.scene.control.Button;

import javafx.scene.text.Text;

import javafx.scene.layout.FlowPane;

import javafx.geometry.Pos;

import javafx.event.ActionEvent;

public class Graphics extends Application {

private TextField input;

private Text result;

public void start (Stage primaryStage) {

primaryStage.setTitle ("String Generator");

Text intro = new Text ("Enter a title or phrase:");

input = new TextField();

input.setPrefWidth(500);

Button acronym = new Button ("Generate Acronym");

acronym.setOnAction(this::createAcronym);

Button password = new Button ("Generate Password");

password.setOnAction(this::createPassword);

Button reset = new Button ("Reset");

reset.setOnAction(this::clearRequest);

result = new Text ("Let's create an acronym or password!");

FlowPane pane = new FlowPane (intro, input,

acronym, password,

reset, result);

pane.setAlignment(Pos.CENTER);

pane.setHgap (65);

pane.setVgap (40);

Scene scene = new Scene (pane,540,270 );

primaryStage.setScene (scene);

primaryStage.show ();

}

public void createAcronym (ActionEvent event){

String acronymText =

StringGenerator.generateAcronym(input.getText());

result.setText(acronymText);

}

public void createPassword (ActionEvent event){

String passwordText =

StringGenerator.generatePassword(input.getText());

result.setText(passwordText);

}

public void clearRequest (ActionEvent event){

input.setText("");

result.setText("Let's create an acronym or password!");

}

}

Graphical user interface, text, application, email

Description automatically generated

The application when it is first launched:

Graphical user interface, text, application, email

Description automatically generated

Here is a view after the user has entered text and pressed the Generate Acronym button:

Graphical user interface, text, application, email

Description automatically generated

Here is a view after the user has pressed the Reset button:

Graphical user interface, text, application

Description automatically generated

Here is a view after the user has entered text and pressed the Generate Password button:

Graphical user interface, text, application, email

Description automatically generated

Here is a view after the user has entered text and pressed the Generate Acronym button:

Graphical user interface, text, application

Description automatically generated

Here is a view after the user has entered text and pressed the Generate Password button: