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**Project Name: EnigmaMachine**

**Author: Cameron Villnave**

**Date Written: November 22, 2020**

**Synopsis: This program is the starting program for the Enigma Machine**

**\*/**

package enigmamachineproject;

import java.io.BufferedReader;

import java.io.File;

import java.io.FileNotFoundException;

import java.io.FileReader;

import java.io.IOException;

import java.util.Scanner;

import java.util.logging.Level;

import java.util.logging.Logger;

// this is the parent class. it is extended in the child class EnigmaMachineProject.

// basically everything that happens here can be used by the code below; basically I don't have to keep copying

// this code down below

// this small snippet of code is being reused over and over again because of inheritance

// so the program doesnt have to keep repeating code every time the program paints a screen

class ScreenPainter {

void painter(String fname) throws FileNotFoundException, IOException {

if (System.getProperty("os.name").contains("Windows")) {

try {

new ProcessBuilder("cmd", "/c", "cls").inheritIO().start().waitFor();

} catch (InterruptedException ex) {

Logger.getLogger(ScreenPainter.class.getName()).log(Level.SEVERE, null, ex);

}}

else {

File blnkscr = new File("/Users/cameronvillnave/Desktop/ScreenBuilder/BlankScreen.txt");

BufferedReader br1 = new BufferedReader(new FileReader(blnkscr));

String st1;

st1 = br1.readLine();

while (st1 != null) {

st1 = br1.readLine();

if (st1 != null)

System.out.println(st1);

}}

File infile = new File(fname);

BufferedReader br2 = new BufferedReader(new FileReader(infile));

String st2;

st2 = br2.readLine();

while (st2 != null) {

st2 = br2.readLine();

if (st2 != null)

System.out.println(st2);

}

} }

// inheritance is being used here to paint the screens and to drive the process

class EnigmaMachineProject extends ScreenPainter {

public static void main(String[] args) throws IOException {

EnigmaMachineProject myscr = new EnigmaMachineProject();

myscr.painter("/Users/cameronvillnave/Desktop/ScreenBuilder/WelcomeScreen.txt");

PressEnterToContinue();

MainMenuScreen myMenu = new MainMenuScreen();

myMenu.MainMenuScreen();

Scanner myObj = new Scanner(System.in); // Create a Scanner object

int menuSelection = myObj.nextInt(); // Read user input

System.out.println("Option selected is: " + menuSelection); // Output user input

EncryptionClass myEMessage = new EncryptionClass();

DecryptionClass myDMessage = new DecryptionClass();

if (menuSelection == 1) {

// this is where you will call the method to obtain the message to be encrypted

myEMessage.encryptData();

myMenu.MainMenuScreen();

// call the class or method to do the encryption

// paint the encrypted output to the output screen

// After they press enter return to the main menu

}

else if (menuSelection == 2) {

// this is where you will call the method to obtain to message to be decrypted

myDMessage.decryptData();

myMenu.MainMenuScreen();

// call the class or method to do the decryption

// paint the decrypted output to the output screen

// After they press enter return to the main menu

} else {

// this where you will exit the program

java.lang.System.exit(0);

}

}

// this code allows the user to read the screen and press enter to continue through the program

public static void PressEnterToContinue() {

System.out.println("Press the Enter key to continue...");

try

{

System.in.read();

}

catch(IOException e)

{}

}}

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**Program Name: EncryptionClass**

**Author: Cameron Villnave**

**Date Written: November 22, 2020**

**Synopsis: This class collects and encrypts the message provided by the user**

**\*/**

package enigmamachineproject;

import java.io.IOException;

import java.util.Scanner;

import java.io.File;

public class EncryptionClass {

// create an encryptData() method

public void encryptData() throws IOException {

System.out.println(" Select the number of your option: ");

Scanner in = new Scanner(System.in);

int numbentered = in.nextInt();

Scanner myMessage = new Scanner(System.in); // Create a Scanner object

Scanner myFile = new Scanner(System.in);

if (numbentered == 1) {

System.out.println("Enter the message to be encrypted ");

String encryptMessage = myMessage.nextLine(); // Read user input

System.out.println("Message to be encrypted is : " + encryptMessage); // Output user input

} else {

if (numbentered == 2) {

System.out.println("Enter the complete path and filename of the file to be encrypted ");

String encryptFile = myFile.nextLine(); // Read user input

System.out.println("File to be encrypted is : " + encryptFile); // Output user input

// put in some code that reads the text file with the message to be encrypted

{

{

// pass the path to the file as a parameter

File file = new File(encryptFile);

Scanner sc = new Scanner(file);

while (sc.hasNextLine())

System.out.println(sc.nextLine());

}

}

} else {

if (numbentered == 3) {

String[] args = null;

MainMenuScreen myMenu = new MainMenuScreen();

myMenu.MainMenuScreen();

System.out.println(" Enter the number of the program you would like to run: ");

}

}

}

}

}

**/\***

**Program Name: DecryptionClass**

**Author: Cameron Villnave**

**Date Written: November 22, 2020**

**Synopsis: This class collects and decrypts the message provided by the user**

**\*/**

package enigmamachineproject;

import java.io.IOException;

import java.util.Scanner;

public class DecryptionClass {

// create an decryptData() method

public void decryptData() throws IOException {

System.out.println(" Select the number of your option: ");

Scanner in = new Scanner(System.in);

int numbentered = in.nextInt();

Scanner myMessage = new Scanner(System.in); // Create a Scanner object

Scanner myFile = new Scanner(System.in);

if (numbentered == 1) {

System.out.println("Enter the message to be decrypted ");

String decryptMessage = myMessage.nextLine(); // Read user input

System.out.println("Message to be decrypted is : " + decryptMessage); // Output user input

} else {

if (numbentered == 2) {

System.out.println("Enter the filename to be decrypted ");

String decryptFile = myFile.nextLine(); // Read user input

System.out.println("File to be decrypted is : " + decryptFile); // Output user input

} else {

if (numbentered == 3) {

String[] args = null;

MainMenuScreen myMenu = new MainMenuScreen();

myMenu.MainMenuScreen();

}

}

}

}

}

**/\***

**Program Name: MainMenuScreen**

**Author: Cameron Villnave**

**Date Written: November 22, 2020**

**Synopsis: Sets up the main menu**

**\*/**

package enigmamachineproject;

import java.io.IOException;

import java.util.Scanner;

public class MainMenuScreen {

public void MainMenuScreen() throws IOException {

EnigmaMachineProject myscr2 = new EnigmaMachineProject();

int numbentered;

myscr2.painter("/Users/cameronvillnave/Desktop/ScreenBuilder/MainMenuScreen.txt");

System.out.println(" Enter the number of the program you would like to run: ");

Scanner in = new Scanner(System.in);

numbentered = in.nextInt();

if (numbentered == 1) {

myscr2.painter("/Users/cameronvillnave/Desktop/ScreenBuilder/InformationScreen.txt");

PressEnterToContinue();

myscr2.painter("/Users/cameronvillnave/Desktop/ScreenBuilder/EncryptionScreen.txt");

EncryptionClass encrypter = new EncryptionClass();

encrypter.encryptData();

} else {

if (numbentered == 2) {

myscr2.painter("/Users/cameronvillnave/Desktop/ScreenBuilder/InformationScreen.txt");

PressEnterToContinue();

myscr2.painter("/Users/cameronvillnave/Desktop/ScreenBuilder/DecryptionScreen.txt");

DecryptionClass decrypter = new DecryptionClass();

decrypter.decryptData();

} else {

if (numbentered == 3) {

myscr2.painter("/Users/cameronvillnave/Desktop/ScreenBuilder/ExitScreen.txt");

PressEnterToContinue();

System.exit(0);

}}}}

public static void PressEnterToContinue() {

//throw new UnsupportedOperationException("Not supported yet."); //To change body of generated methods, choose Tools | Templates.

System.out.println("Press the Enter key to continue...");

try

{

System.in.read();

}

catch(IOException e)

{}

}}