package lab02\_StarPattern\_Spring2024PK;

import java.util.Scanner; //needed for Scanner class.

import javax.swing.JOptionPane; //needed for JOptionPane class.

public class StarsPattern {

public static void main(String[] args) {

// TODO Auto-generated method stub

//ExtraWork

String title = "Stars\_Pattern";

//problem 3.

String pattern;

// problem 4.

pattern = constructStarsPattern();

// displayStarsPattern(title, pattern);

displayStarsPattern(title + " Pbm 5, Part I", pattern);//Testing#

// displayStarsPatternInMessageBox(title, pattern);

displayStarsPatternInMessageBox(title + " Pbm 5, Part II", pattern);//Testing

//Problem 6: Run the program

//problem 7:

int asterisks;

//problem 8:

int numberOfColumns = 6;

asterisks = numberOfColumns \* numberOfColumns; // asterisks' formula

//problem 9:

String output1 = "\n\nThe number of \* symbols in the lines of the"

+ " pattern are: ";

String output2 = 1 + ", " + 2 + ", " + 3 + ", " + 4 + ", " + 5

+ ", " + 6 + ", " + 5

+ ", " + 4 + ", " + 3 + ", " + 2 + ", " + 1;

String output3 = "The total number of \* symbols in the pattern is: "

+ asterisks;

String output3Strings = output1 + "\n" + output2 + "\n" + output3;

displayThreeStrings(asterisks, title, output3Strings);

//pbm 10 run it.

//problem 11:

// A pseudo checks the correctness of a number of stars in the pattern.

JOptionPane.showMessageDialog(null, "Check the answer?");

String nColumns = JOptionPane.showInputDialog(

"Enter the number of Columns for " +

"\n" + "a star pattern:");

/\*

int numberOfColumns1 = Integer.parseInt(nColumns);

int asterisks1 = numberOfColumns1 \* numberOfColumns1;

JOptionPane.showMessageDialog(null,

"Pbm 11a: There are " + numberOfColumns1 +

" columns in a star pattern has " + asterisks1 + " stars.");

\*/

computeDisplayStars(Integer.parseInt(nColumns), title);

System.out.println("\nEnd of the Lab02 StarPattern!");

System.exit(0);//required for JOptionPane class.

}//end of main()

public static String constructStarsPattern(){

String definedPattern;

// problem 4.

/\*

definedPattern = new String("\n \*\n \* \*\n \* \* \*\n \* \* \* \*"

+ "\n \* \* \* \* \*\n\* \* \* \* \* \*\n \* \* \* \* \*"

+ "\n \* \* \* \*\n \* \* \*\n \* \*\n \*\n");

\*/

definedPattern = new String("\n\t\t \*\n\t\t \* \*\n\t\t \* \* \*"

+ "\n\t\t \* \* \* \*\n\t\t \* \* \* \* \*\n\t\t\* \* \* \* \* \*"

+ "\n\t\t \* \* \* \* \*\n\t\t \* \* \* \*\n\t\t \* \* \*"

+ "\n\t\t \* \*\n\t\t \*\n\t\t");

/\* Use the following two statements to check whether the string literals

\* has 127 characters

\* int L = definedPattern.length();

\* System.out.println("The length L is " + L);

\*/

return definedPattern;

} //end of constructStarsPattern()

public static void displayStarsPattern(String title,

String starsAddress){

// problem 5a.

System.out.println(title + " Testing!"); //Testing#

String str = "5a. The number of characters in the pattern is "

+ starsAddress.length();

System.out.println(str); // print the number of characters

// in the pattern

//problem 5b.

str = "5b. The number of characters "

+ "in the pattern is %d.\n";

System.out.printf(str, starsAddress.length());

// problem 5c.

// System.out.println("5c. The stars' pattern is:\n"

// + starsAddress); // print the given pattern

System.out.println("5c. The stars' pattern is:\n" + "\n\t" + title + "\n"

+ starsAddress); // print the given pattern. Testing#

//problem 5d.

System.out.printf("5d. The stars' pattern is:\n %s\n\n",

starsAddress);

}//end of displayStarsPattern()

public static void displayStarsPatternInMessageBox(String title,

String strPattern){

// String title = "Stars Pattern";

JOptionPane.showMessageDialog(null, strPattern);

JOptionPane.showMessageDialog(null, strPattern, "5e: "

+ title,

JOptionPane.INFORMATION\_MESSAGE);

String str1 = "The number of characters in the pattern is ";

JOptionPane.showMessageDialog(null, str1 + " "

+ strPattern.length(),

"5f: " + "Stars Pattern",

JOptionPane.QUESTION\_MESSAGE);

JOptionPane.showMessageDialog(null, "The pattern is: \n"

+ strPattern, title,

JOptionPane.INFORMATION\_MESSAGE);

}//end of displayStarsPatternInMessageBox(String)

public static void computeDisplayStars(int numberOfColumns,

String title){

int asterisks1 = numberOfColumns \* numberOfColumns;

JOptionPane.showMessageDialog(null,

"Pbm 11b: There are " + numberOfColumns +

" columns in a star pattern has " + asterisks1 +

" stars.",

title, JOptionPane.INFORMATION\_MESSAGE);

}

public static void displayThreeStrings(int asterisks,

String title, String ThreeStrings){

System.out.println(ThreeStrings);

JOptionPane.showMessageDialog(null, ThreeStrings);

JOptionPane.showMessageDialog(null, ThreeStrings, "Pbm 9A "

+ title,

JOptionPane.WARNING\_MESSAGE);

// JOptionPane.showMessageDialog(null, output2, "Pbm 9B " + title,

// JOptionPane.WARNING\_MESSAGE);

// JOptionPane.showMessageDialog(null, output3, "Pbm 9C " + title,

// JOptionPane.WARNING\_MESSAGE);

}

}//end of class StarsPattern