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