Activity: String Objects

Before You Begin:

Go thoroughly read the SDI_StringObjects.pdf! This contains the full instructions for this project and the rubric, which explains how you will be graded.

Criteria:

For each problem below you will need the following:

- Create a new project with a Main() method that can call other custom methods.
- Label the section of code appropriately.
- Create a custom method for each of the (2) problems and call them from the main() method.
- All of the problems involve String objects, so use String methods to solve them.
- Do additional research on String methods as there may be some useful methods that were not covered in class.
- Prompt the user in the Main method and use those values as arguments when calling the custom functions.
- Each function must return the required information to the Main method.
- Final results must be printed in the Main method and NOT in the custom functions.
- Test all of the Data Sets To Test and put them in a multi-lined comment in your code.
- When complete, compress the files into a Zip and upload the zipped file to FSO.

Graded Problems:

Problem #1: Email Address Checker

Create a method that will accept a String as an argument and then check to see if the String follows the pattern of an email address, such as aaa@bbb.ccc.

You must check the following:

1. Only one @ symbol in the whole string
2. No spaces
3. At least one dot after the @ symbol
4. There is no need to check for .com, .edu, etc.
5. The code should work for any string entered.

- **User Input (Prompt In Main Method, Use As Arguments):**
  - String of an email address
- **Return Value From Custom Function To Main Method:**
  - "valid" or "invalid"
- **Result to print to the console in the Main Method:**
  - "The email address of **X** is a valid email address." or "The email address of **X** is not a valid email address."
- **Data Sets To Test**
  - Email – test@fullsail.com
    - **Results -** "The email address of test@fullsail.com is a valid email address."
  - Email – test@full@sail.com
    - **Results -** "The email address of test@full@sail.com is not a valid email address."
  - Email – test@full sail.com
    - **Results -** "The email address of test@full sail.com is not a valid email address."
  - Now try an email of your own

Problem #2: Separator Swap Out

Create a method that will accept three strings.

1. First will be a list of items separated by a given string
2. Second will be the separator used
3. Third will be a new separator.

The function will then perform the task of replacing the first separator with the second and returning the result. Thus, a list such as "a,b,c,d" with the first separator being "," and the second separator being "/" would become "a/b/c/d".

- **User Input (Prompt In Main Method, Use As Arguments):**
  - String of a list of items separated by a given string
  - String of the separator used
  - String of the new separator
- **Return Value From Custom Function To Main Method:**
  - The new String with the swapped out separator
- **Result to print to the console in the Main Method:**
  - "The original string of **X** with the new separator is **X**."
- **Data Sets To Test**
  - List – "1,2,3,4,5" orginalSeparator – "," newSeparator – "-"
    - **Results** – "The original string of 1,2,3,4,5 with the new separator is 1-2-3-4-5."
  - List – "red: blue: green: pink" orginalSeparator – ":" newSeparator – ","
    - **Results** – "The original string red: blue: green: pink with the new separator is red, blue, green, pink."
  - Now try one of your own.