Lab 6: C Strings

Material for this lab comes from Chapter 8 – C Characters and Strings.

All Programs Must Have:

Header Comments and Inline Comments
Consistent Indentation and Spacing

See the Documentation and Style Guidelines.

All programs must compile. Programs that do not compile will receive a grade of zero.

strFunctions.h

- Create a new folder for this assignment.
- Create a header file with the prototypes for the two functions shown below.

  Include a preprocessor wrapper. Follow the convention below for naming the constant.

  filename: strFunctions.h constant: STRFUNCTIONS_H

Here are the two functions:

1. void splitAlpha (const char * original, char * lower, char * upper);

   The variables original, lower, and upper are pointers to null-terminated strings (character arrays). The function splitAlpha should copy the lowercase letters from original to lower, and the uppercase letters from original to upper.

   The memory areas pointed to by lower and upper are assumed to be large enough to hold the number of characters that need to be moved.

   The string original may contain non-alphabetic characters.

   The contents of original should not be changed.

   For example, if original contains "The symbol for Intel is INTC."

   After the function completes, array lower should contain "hesymbolforntelis" and array upper should contain "TIINTC". Remember to put the null character at the end.

2. void printSequences (const char * text);

   The function printSequences should print any sequences of letters or digits that occur in the string. At the end of each sequence, print a newline.

   For example, if text contains "abk123@XY", the function should print

   ab
   123
   XY

   Letters must be the same case in order to form a sequence. "rS" would not be a sequence.

   A sequence must be at least two characters. A single letter or a single digit doesn't form a sequence.

strFunctions.c

- Create a source file with the function definitions for splitAlpha and printSequences.

lab6.c

- Create a driver program.
- Write a main function that tests the functions splitAlpha and printSequences.

makefile

- Create a makefile that compiles strFunctions.c and lab6.c separately, then links them to produce an executable called lab6.
- The makefile must have an "all" target that produces the executable.

  Word of Advice: Type the makefile without looking at another makefile. You will need to do this for the exam.

- Test thoroughly.