

COMP161 - Lab 4

Spring 2015

Today's lab gives you practice with predicate functions, booleans, characters, and libraries.

A Character Predicate: *isVowel*

The C *character type* library¹ provides several useful predicates that check which variant of the character type you're dealing with. Take a moment to scan the library and see what's available. Your task today is create a new predicate named *isVowel* that determines if a given character is an English vowel² or not. It should work for both uppercase and lowercase letters. *Do not assume that the character in question is a letter.* Focus on getting it working correctly, then see if you can shorten it down and compress the logic to a single return statement with no conditionals³.

Just a few reminders:

- Remember to put `#include <cctype>` in any file where a `cctype` library function is invoked.
- All characters have positive integer values associated with them⁴. The C `cctype` library was written expressly for ints, not chars, so all the `cctype` library functions take integer arguments and return integer results. The compiler will convert between *int* and *char* types as needed without trouble so you can pretend all those ints are chars.

At the end of lab or when you're done with *isVowel*, whichever comes first, submit your source code and Makefile with *handin*. The assignment designation is, of course, *lab4*.

Practice/Challenge

Write an *isConsonant*⁵ function. Leverage your existing *isVowel* function if possible. Also, consider working problems for the problem set given with last week's lab.

¹ aka *cctype* <http://www.cplusplus.com/reference/cctype/>

² A,E,I,O,U,Y

³ assuming that you didn't do this the first go around

⁴ see <http://www.asciitable.com/>

⁵ Non-Vowel letters