CS2340 Fall 2022

Assignment 7: Password Validation

Write a program that asks the user for a string and validates it as a password according to the rules given below. If the user enters a blank line (New Line character in the first byte) the program exits. Otherwise, it should continue asking for passwords and validating them. Note that the user can type anything, so you must check for validity. If the password is valid, print “Valid password.” If it isn’t, print “Invalid password.”

Rules:

1. Passwords must be a minimum of 12 characters long and no more than 50 characters long.
2. They must contain at least one upper-case letter.
3. They must contain at least one lower-case letter.
4. They must contain at least one digit (0-9)
5. They must contain at least one special character from the set !@#$%^&()[],.:;
6. They must not contain any special characters not in the above set, and they must not contain spaces.

Some notes on programming:

1. Don’t do everything in the program loop. Write little functions as needed. You may re-use functions you wrote for other assignments, but please do not turn in a module with all of them. Turn in only the ones you use.
2. Plan your program before you start writing. There are easy ways and difficult ways to check for the special characters, for example. Since assembly language doesn’t have structs like C++, you might consider a technique with parallel arrays.

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| Grading Criteria | |
| Program rejects passwords that do not meet criteria and accepts those that do | 15 |
| Program uses functions to test various things rather than writing everything in the main loop. | 2 |
| Program structure. | 3 |
| Program comments | 5 |
| Total | 25 |

Your program will be tested with a variety of valid and invalid passwords. Depending upon how many valid passwords are rejected and invalid ones accepted, partial credit will be given.

**This is an extra-credit assignment.** Points will be added to your assignment score, but the 25 points will not figure in to the formula.