

Explaining how you tested your program (what test cases and strategies did you use).

Testing strategy:

I started by test case that doesn't fit into any categories.

testcases: aaaaaa

Then I tested some cases that would fit 1 criterion:

1. aaaaaa (at least 6 character)
2. Gabbb (1 capital & 1 lower)
3. 33333 (1digit)
4. !!!!! (1 special character)

Test cases that met 2 criteria :

1. Aaaaaa (6 character & 1upper1lower)
2. 3333333 (6 character & 1 digit)
3. !!!!!!! (6 character & 1 special character)
4. ABx33 (1cap 1 lower, 1 digit)
5. Ty##v (1cap 1 lower, 1 special)
6. 4455! (1 digit, 1 special)

Test cases that met 3 criteria:

1. ABcc33333 (6 character, 1 cap 1 lower, 1 digit)
2. &&TEDxTaipei (6 character, 1cap 1 lower, 1 special)
3. 3344% % % % % (6 character, 1 digit, 1 special)
4. AcV3! (1 cap 1 lower, 1 digit, 1 special)

Test cases that met all criteria:

1. Abcc33!
2. VV88tt\$
3. 6699!Mn

Please output the total number of times your algorithm makes a comparison between the user's password and an entry on the list of common passwords.

1. adam - 12
 You need at least 6 characters.
 You need at least one uppercase letter.
 You need at least 1 digit.
 You need a special character.
 Password is very weak.
 The password is common.
 Number of comparison: 12
2. cobra - 9
3. ewyuza - 9

Q: What is the relationship between this number and the size of the list?

A: $\log_2 n$

Reference:

- <http://stackoverflow.com/questions/16709638/checking-the-strength-of-a-password-how-to-check-conditions>
- <http://www.w3resource.com/python-exercises/python-conditional-exercise-15.php>
- <https://pymotw.com/2/re/>
- <https://www.linuxvoice.com/issues/012/passwd12.pdf>
- <https://pymotw.com/2/getpass/>
- <http://stackoverflow.com/questions/34396842/getpass-input-python-3>
- Discuss with Meghana