Automate Rating Usability of Generated Passwords

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Pseudocode

**Data I/O**

Get the name of a target file to be written to and create the file

Ask user for name of file where passwords are stored

Open file with passwords stored

**Parse input**

Create integer variable for the password’s LDP (linguistic and phonological difficulty)

Create a new array variable ‘phrases’

Create a new array variable ‘passwords’

Create new string variable ‘current\_password’

Create a new array variable ‘LDP\_list’

Create index variable ‘current\_phrase’ and set to zero

Read a password from file input

Store the password string at the end of ‘passwords’ and assign to ‘current\_password’

**Step 1**

Check the character at index 0 of ‘current\_password’

If the character is a symbol,

Add 1 point to the LDP

For each character in ‘current\_password',

If the char is a symbol,

Increment ‘current\_phrase’

Else

Concatenate the character at the end of passwords at the string at index ‘current\_phrase’

**Step 2**

Get the size of ‘phrases’:

If 1 == size of ‘phrases’, or size of ‘phrases’ == 2:

Add nothing to LDP

Else add score to LDP using:

((size -3) \* 2) + 1

For each phrase in ‘phrases’:

**Step 3**

If 1 <= size <= 3:

Add 0 to LDP

If 4 <= size <= 5:

Add 1 to LDP

If 6 <= size <= 7:

Add 2 to LDP

If 8 <= size <= 9:

Add 3 to LDP

If 10 <= size <= 11:

Add 4 to LDP

If 12 <= size <= 13:

Add 5 to LDP

**Step 4**

For each character string,

If there is a letter in a position other than index 0 that is capitalized, add 1 to LDP

**Step 5**

If the phrase has the pattern L(N\*)L or N(L\*)N (mixed numbers and letters)

Add 1 to LDP

**Step 6**

If the phrase has the pattern (consonant)(vowel)(consonant)

Add 1 to LDP

\*\*\*Add more pronunciation rules?\*\*\*

**Parse input**

Store current LDP in ‘LDP\_list’

Set LDP to 0

**Data I/O**

Write password and LDP to the output file as in the format as follows:

Password LDP Step 1 Step 2 Step 3 Step 4 Step 6 Step 6

$g7)81ragUfSvb 5 1 0 0 5 0 -1