

Help with password generation

To make this explanation shorter, let's consider an "alphabet" that has only two letters: a and b instead of a through z. The list of all possible three-character passwords over that alphabet is:

aaa
aba
aab
abb
baa
bba
bab
bbb

To get this list, we can follow this process: First, generate all one-character passwords:

a
b

Next, add each letter (a and b) to the front of the existing one-character passwords to get all possible two-character passwords:

aa
ab

ba
bb

Finally, add each letter (a and b) to the front of all possible two-character passwords to get all possible three-character passwords:

aaa
aab
aba
abb

baa
bab
bba
bbb

Thinking recursively, to generate all possible n-character passwords, first generate all possible n-1 character passwords by calling your method recursively, then loop over each letter in your alphabet and add it to the beginning of each password returned by your recursive call.