Exercise #09

- You don’t need to turn in your homework, but you should practice all problems because they may probably appear in the later exam. 作業自己練習不用交，之後考試可能會出現類似題目
- To ask a question, please provide the code you wrote. It doesn’t matter if you write it incompletely, but you need to write a version with your own ideas. 有問題可以 email 跟老師討論，但請附上自己寫的程式碼

☐ Problem 1. *Alternating two string characters (<u>交錯字元，並將英文字母全部轉大寫</u>)*

- *Input the strings s1 and s2, not necessarily of the same length, create a new string s3 consisting of alternating characters of s1 and s2. That is, the first character of s1 followed by the first character of s2, followed by the second character of s1, followed by the second character of s2, and so on. <u>Meanwhile, change all alphabet characters to upper-case letter.</u>*
- *Once the end of either string is reached, the remainder of the longer string is added to the end of the new string.*
- *For example, if s1 contained "abc" and s2 contained "uvwxyz12", then the new string should contain "<u>AUBVCWXYZ12</u>". Associate the new string with the variable s3.*
- *Write a function alternating_str(s1, s2, s3) to implement this.*

☐ Problem 2. string permutation

- Input a string s, print all of the three-character permutations of s. Also print the total number of permutations.
- Note: assume the maximum length of the string s is 10
- Example:
- input a string:abcde
- abc abd abe acb acd ace adb adc ade aeb aec aed bac bad bae bca bcd bce bda bdc bde bea bec bed cab cad cae cba cbd cbe cda cdb cde cea ceb ced dab dac dae dba dbc dbe dca dcb dce dea deb dec eab eac ead eba ebc ebd eca ecb ecd eda edb edc
- The total number of permutations is 60

☐ Problem 3. Rotate String

- We are giv en two strings, **s1** and **s2**.
- A shift on **s1** consists of taking string **s1** and moving the leftmost character to the rightmost position. For example, if **s1** = 'abcde', then it will be 'bcdea' after one shift on **s1**. write a function which return True if and only if **s1** can become **s2** after some number of shifts on **s1**. **Note: s1** and **s2** will have length at most 20.

Example 1:

Input: A = 'abcde', B = 'cdeab'

Output: true

Example 2:

Input: A = 'abcde', B = 'abced'

Output: false