Exercise #10

- 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

  ☐ Problem 1. Input a string containing lower case letters, and convert it to an upper case string. (using the functions in Character Handling Library <ctype.h>)

  ☐ Problem 2. **Reverse Only Letters   (you can find solutions from leetcode)**

    ◼ *Write a function, given a string S, return the "reversed" string where all characters that are not a letter stay in the same place, and all letters reverse their positions.*

    ◼ *Note:*

    ◼ *S.length <= 100*

    ◼ *33 <= S[i].ASCIIcode <= 122*

    ◼ *S doesn't contain \ or "*

    ◼ *Example 1:*

      ☐ *Input: "ab-cd"*

      ☐ *Output: "dc-ba"*

    ◼ *Example 2:*

      ☐ *Input: "a-bC-dEf-ghIj"*

      ☐ *Output: "j-Ih-gfE-dCba"*

    ◼ *Example 3:*

      ☐ *Input: "Test1ng-Leet=code-Q!"*

      ☐ *Output: "Qedo1ct-eeLg=ntse-T!"*

  ☐ Problem 3. **Letter Case Permutation   (you can find solutions from leetcode)**

    ◼ Given a string S, we can transform every letter individually to be lowercase or uppercase to create another string.   Return a list of all possible strings we could create.

    ◼ **Note:**

      ☐ S will be a string with length between 1 and 12.

      ☐ S will consist only of letters or digits.

    ◼ *Example 1:*

      ☐ Input: S = "a1b2"

      ☐ Output: ["a1b2", "a1B2", "A1b2", "A1B2"]

    ◼ *Example 2:*

      ☐ Input: S = "3z4"

      ☐ Output: ["3z4", "3Z4"]

    ◼ *Example 3:*

      ☐ Input: S = "12345"

      ☐ Output: ["12345"]