**HW 8**

**Learning Experience**

Part 1:

The first part of the assignment was a good practice to get an introduction to RegEx. The program was about to create a function, use regular expression module, and return specific values. This assignment is easy if we implement the right set for the regex pattern; however, if we want to use the Special Sequences, we might find it hard to find the right set for our desire patter. For example, if we want our pattern to be the special characters, we might use the explicit special sequences \W and \S, which are non-alphanumeric and non-whitespace characters respectively, and leads to have only special characters.



However, there are some gaps in this example since ‘^’, ‘\_’, and others special characters are not integrated in the pattern. On the other hand, we could use sets of special characters to specify which special characters must include in our pattern like in the following code:



This regular expression pattern includes almost all special characters by mentioning them implicitly.

For the number of uppercase letters, I used set [A-Z] to specifies implicitly which characters I want to find with the regex function findall(). Similarly, I used the set [a-z] to find all lowercase letters in the string.



For the numerical letters, I used the explicit special sequence pattern \d which matches to any digit and this allowed me to find all digit occurrences in the string.



Overall, this assignment allowed to have a deeper understanding of regular expression and how to use them, and I found them extremely useful to searching and manipulating strings.

**Part 1 Test 1**

**Text

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