

Note: All questions are mandatory.
Attempt subparts at one place.

Q1. Write a function in Python that takes a string consisting of alphabetic characters as input argument and returns the most common character. Ignore white spaces i.e. do not count any white space as a character. Note that capitalization does not matter here i.e. a lower case character is equal to an upper case character. In case of a tie between certain characters return the last character that has the largest count.

For example, if the string is “work hard”, the most common character is ‘r’ which is appearing two times as compared to all other characters occurring only once.

If the string is “better”, the largest count is 2 for both characters ‘e’ and ‘t’. Since ‘t’ appears after ‘e’ in the given string, the function should return ‘t’ as the most common character. (5)

Q2. Write a function in Python named `unique_common` that accepts two lists both of which contain integers as parameters and returns a sorted list (ascending order) which contains unique common elements from both the lists. If there are no common elements between the two lists, then your function should return the keyword- `None`

For example, if two of the lists received by the function are:

`([5, 6, -7, 8, 8, 9, 9, 10], [2, 4, 8, 8, 5, -7])`

You can see that elements 5, -7, and 8 are common in both the first list and the second list and that the element 8 occurs twice in both lists. Now you should return a sorted list (ascending order) of unique common elements like this:

`[-7, 5, 8]`

If the two lists received by the function are:

`([5, 6, 7, 0], [3, 2, 3, 2])`

Since, there are no common elements between the two lists, your function should return the keyword `None`

(5)

3. Define and differentiate between the following:

(1X5=5)

- a) Break and Continue
- b) For and While loop
- c) List and Tuple
- d) Mutable and Immutable data types
- e) Local and Global Variables