12323 - LAB 05

Instructions

1. Access the auto-grader at https://c200.luddy.indiana.edu

2. Please write the code for the problems in python language

3. The code should be readable with variables named meaningfully

4. Plagiarism is unacceptable and we have ways to find it, so do not do it

5. Don't change the function signature (name of the function and number and types of arguments) provided in this file.

6. Once you pass all the tests on the auto grader, show your work to the teaching assistant

Problem

Question

Your task is to write a function sortCrazy(string) that sorts a mixed-type string according to the following rules: lowercase letters should precede uppercase letters, which in turn should precede numbers. Within each category, the characters should be sorted individually. For example, given the input string "21baBA", the function should return "abAB12", where lowercase letters ('a', 'b') are sorted alphabetically, followed by uppercase letters ('A', 'B'), and finally, numbers ('1', '2') are sorted numerically.

Test cases

Input: string="21baBA"
Output:"abAB12"

Input: string="3AnJiOasjdn"
Output: "adijnnsAJO3"

Function signature

```
def sortCrazy(string:str)->str:
    return sortedString
```

Constraints

1.) Solve the question using concept of divide and conquer.
2.) Time complexity should be O(nlogn). Where n is the number of characters in the string.