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# Name: Nayan Nathi
# Grade: 8th
# Division: Junior-5 (Python)
# Contest2 Year: 2019-2020
# Program: Junior Division: String Differences
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def Step1(word):
    word = list(word) # turn into list
    for i in range(0, len(word) - 1): # Setting a range so no index error
        if word[i] == word[i + 1]: # checks if the letter is the same as the one right after
            word[i + 1] = "" # if the same Then deletes the second instints
    return ("".join(word)) # puts the list back to string from list format
```

```
def Step2(word):
    wordAdd = "" # preseting a word just incase of not being an appearance
    if word[0] == "A" or word[0] == "E" or word[0] == "I" or word[0] == "O" or word[0] == "U": # checking if the first letter is a vowel
        wordAdd = word[0] # if first letter is a vowel saving it to add at the end
        word = word[1:] # making word everything except first letter so extra vowel stays
    word = word.replace("A", '') # deleting "a"
    word = word.replace("E", '') # deleting "e"
    word = word.replace("I", '') # deleting "i"
    word = word.replace("O", '') # deleting "o"
    word = word.replace("U", '') # deleting "u"
    return (wordAdd + word) # returning word back to normal with first letter
```

```
def Step3(word1, word2):
    word1 = list(word1) # turning into a list
    word2 = list(word2.replace("\n", "")) # taking out extra lines in the str, then turning into list
    if len(word1) > len(word2): # Checking if word two is shorter than word one
        xx = len(word2) # seting word 2 as the lowest length word
    else: # making sure the other val is used in case that is the lower word length
        xx = len(word1) # seting word 2 as the lowest length word
    index = 0 # setting a new vari(index checker) to 0
    while (index < xx): # All ways checing if index is lower than length of the lower string
        if (word1[index] == word2[index]): # checking if letters are simlar in same index spot
            word1[index] = word2[index] = "" # deleteing from spot if simlar
        index = index + 1 # changing index to go up by one
    return ("".join(word1) + " " + "".join(word2)) # rejoining the list format of words and seperating by space
```

```
count = 1 # setting count for exotic output look
for line in (open("StringDifferences.txt", "r")): # running each line of code while taking input
    word1 = line.split(" ")[0] # Takign in the first word
    word2 = line.split(" ")[1] # taking in the second word
```

```
step1w1 = Step1(word1) # doing step one to word one
step1w2 = Step1(word2) # doing step one to word two
# print("Step1: " + step1w1 + " " + step1w2)
```

```
step2w1 = Step2(step1w1) # doing step two to word one
step2w2 = Step2(step1w2) # doing step two to word two
# print("Step2: " + step2w1 + " " + step2w2)
```

```
step3 = Step3(step2w1, step2w2) # doing step three for both words
step3split = str(step3).split(" ") # seperating step three into two words
step3w1 = (step3split[0]) # doing step three to word one
step3w2 = (step3split[1]) # doing step three to word two
# print("Step3: " + step3w1 + " " + step3w2)
```

```
step4 = Step3(step3w1[::-1], step3w2[::-1]) # doing step four for both word by using step 3, and reversing strings
step4split = str(step4).split(" ") # seoperating step three into two words
step4w1 = (step4split[0])[::-1] # doing step four to word one
step4w2 = (step4split[1])[::-1] # doing step four to word two
```

```
# print("Step4: "+step4w1+" "+step4w2)

if len(step4w1) > len(step4w2): # checking if word2 has a lower length
    print(str(count) + ". " + step4w2) # printing the lower length word which is word1
elif len(step4w2) > len(step4w1): # checking if word1 has a lower length
    print(str(count) + ". " + step4w1) # printing the lower length word which is word1
else: # doing other checking methods if length of word is equal
    if list(step4w1)[0] > list(step4w2)[0]:
        print(str(count) + ". " + step4w2)
    elif list(step4w1)[0] < list(step4w2)[0]:
        print(str(count) + ". " + step4w1)
    elif list(step4w1)[1] > list(step4w2)[1]:
        print(str(count) + ". " + step4w2)
    elif list(step4w1)[1] < list(step4w2)[1]:
        print(str(count) + ". " + step4w1)
count = count + 1 # changing count for aesthetic
```