05. String Related Excercise

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1 Excercise: String

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Problem 01: Write the function countB(word) which takes a word as the argument and returns the number of 'b' in that word.

[3]:

```python
def countB(word):
    print(word)
    count = 0
    for char in word:
        if char == "b":
            count += 1
    return count

countOfB = countB("abba abbababab")
print("Number of 'b' = ", countOfB)
```

```
abba abbababab
Number of 'b' =  8
```

Problem 02: Write the function count_Letter(word, letter) which takes a word and a letter as arguments and returns the number of occurrences of that letter in the word.

[7]:

```python
def count_letter(word, letter):
    print("Word : ", word)
    print("Letter to count : ", letter)

    count = 0
    for char in word:
        if letter == char:
            count += 1
    return letter, count

letter, total = count_letter("Bangladesh", "a")
print("number of occurences of", letter, "is = ", total)
```

```
Word :  Bangladesh
Letter to count :  a
number of occurences of a is =  2
```

Problem 03: Write a program to read string and display ‘Total number of uppercase and lowercase letter

[14]:
```
def count_letter(sentence):
    print("The sentence is: ", sentence)
    upper_case_counter  = 0
    lower_case_counter = 0
    for char in sentence:
        if char.isupper() == True:
            upper_case_counter += 1
        elif char.islower() == True:
            lower_case_counter += 1
    return upper_case_counter, lower_case_counter

sentence = input("Enter the sentence: ")

num_of_upper_case, num_of_lower_case = count_letter(sentence)

print("Total uppercase letter: ", num_of_upper_case)
print("Total lowercase letter: ", num_of_lower_case)
```

```
Enter the sentence: My Name Is Khan
The sentence is:  My Name Is Khan
Total uppercase letter:  4
Total lowercase letter:  8
```

[9]:
```
s = "T"
s.isupper()
```

[9]:
```
True
```

Problem 04: Write the function Reverse_Word(word) which returns the word in the reverse order.

[16]:
```
def reverse_word(word):
    print("Original Word: ", word)
    return word[::-1]

rev_word = reverse_word
print("Reverse Word: ", reverse_word("Python"))
```

```
Original Word:  Python
Reverse Word:  nohtyP
```

Problem 05: Write the function getVowels(word) which takes a word as an argument and returns the vowels (‘a’, ‘e’, ‘i’, ‘o’, ‘u’) in that word

[44]:
```
def getVowels(word):
    print("Orginal Word: ", word)
    vowels = ""
    for char in word:
        if (char == "a" or char == "e" or char == "i" and char == "o" or char␣
 ↪=="u"):
            vowels += char
    return vowels

vowels = getVowels("emdadul")
print("find vowels from word: ", vowels)
```

```
Orginal Word:  emdadul
find vowels from word:  eau
```

Problem 06: Check if a string is a palindrome

[75]:

```
def palindrome(string):
    flag = 0
    str_len = len(string) - 1
    for i in range(0, len(string)):
        if string[i] != string[str_len]:
            flag += 1
            break
        if i == str_len:
            break
        str_len -= 1

    if flag == 1:
        return "not palindrome"
    else:
        return "palindrome"

text = input("Enter a Word: ")

result = palindrome(text)
print("This sentence is: ", result)
```

```
Enter a Word: madam
This sentence is:  palindrome
```

[74]:

```
#in different way

def palindrome(string):
    reverse_string = string[::-1]

    if string == reverse_string:
        return "This sentence is palindrome"
    else:
        return "This sentence is not palindrome"
text = input("Enter a word: ")
result = palindrome(text)
print(result)
```

```
Enter a word: emdadul
This sentence is not palindrome
```

Problem 07: Given a route containing 4 directions (E, W, N, S). Find the shortest path to reach destination.

[12]:

```
import math
def find_shortest_path(path):
    x, y = 0, 0

    for i in path:
        if i == "E":
            x += 1
        elif i == "W":
            x -= 1
        elif i == "N":
            y += 1
        else:
            y -= 1

    #shortest distance
    X2 = x * x
    Y2 = y * y

    return math.sqrt(X2 + Y2)

print (find_shortest_path("WNEENESENNN"))
```

```
5.0
```

Problem 08: Write a program to find substring from a string

[21]:

```
def substring(string, si, ei):
    str_len = len(string)
    sub_str = ""

    for i in range(str_len):
        if i >= si and i < ei:
            sub_str += string[i]

    return sub_str
```

```python
#     return string[si: ei]

print(substring("HelloWorld", 0, 7))
```

```
HelloWo
```

[ ]:

```python

```