

ITEC-425 / SENG-425: Python Programming Lab

Lab 6: Strings

Task 1

Write a program to calculate the length of a given message.

Note: In this case do this WITHOUT using the built-in `len()` function.

```
In [1]: message = input("Enter a message: ")
        count = 0
        for letter in message:
            count = count + 1
        print("The length of message is ", count)
```

```
Enter a message: Hello, how are you doing?
The length of message is 25
```

Task 2

Modify the above program to use the built-in `len()` function to find the length of a message.

```
In [2]: message = input("Enter a message: ")
        print("The length of the message is", len(message))
```

```
Enter a message: The weather is very nice.
The length of the message is 25
```

Task 3

Take the following Python code that stores a string:

```
str_val = 'X-DSPAM-Confidence:0.8475'
```

Use `find()` function and string slicing to extract the portion of the string after the colon character and then use the `float()` function to convert the extracted string into a floating point number. Verify by checking the type of the converted number.

```
In [3]: str_val = 'X-DSPAM-Confidence:0.8475'

        # first find the index position of the colon character
        colon_pos = str_val.find(':')

        # now slice the string starting from
        # the next character after the above position until the end of the string
        num_slice = str_val[colon_pos+1 :]

        # check that we have the correct substring
```

```

print(num_slice)

# now convert this substring to floating point value
float_num = float(num_slice)

# check that resulting value is of type float
print(type(float_num))

# print the resulting value
print(float_num)

```

```

0.8475
<class 'float'>
0.8475

```

Task 4

Consider the string give below, and the write python code to do the followig tasks:

```
str_val = 'the quick brown fox jumps over the lazy dog'
```

1. Print the slice of first 10 characters
2. Print the slice of last 10 characters
3. Replace `the` with `a` in the given string

```

In [4]: str_val = 'the quick brown fox jumps over the lazy dog'

# 1. Print the slice of first 10 characters
print("The first 10 characters are:", str_val[0:10])

# 2. Print the slice of Last 10 characters
print("The last 10 characters are:", str_val[-10:])

# 3. Replace 'the' with 'a'
new_string = str_val.replace('the', 'a')
print(new_string)

```

```

The first 10 characters are: the quick
The last 10 characters are: e lazy dog
a quick brown fox jumps over a lazy dog

```

Task 5

Write a program that asks the user to input a message and displays the number of words in the message.

Hint: You can split the sentence on spaces.

```

In [6]: message = input("Enter your message: ")

# break the message into words by using the split() function
split_message = message.split()
print(split_message)

word_count = 0

for wd in split_message:
    word_count = word_count + 1

```

```
print("Your message has", word_count, "words")
```

```
Enter your message: to be or not to be, that is the question?  
['to', 'be', 'or', 'not', 'to', 'be,', 'that', 'is', 'the', 'question?']  
Your message has 10 words
```