

THE UNIVERSITY OF THE WEST INDIES
Department of Computing
COMP1126–Introduction to Computing I
Tutorial 5B

You have been provided two functions `stringList` which given a string as an argument returns a list of strings and `count_words` which also takes a string and converts it to list of strings and then returns a list of the count of letters for each string.

```
>>> stringList("This is a test to check the values on an input")
['This', 'is', 'a', 'test', 'to', 'check', 'the', 'values', 'on',
'an', 'input']
```

```
>>> count_words("This is a test to check the values on an input")
[4, 2, 1, 4, 2, 5, 3, 6, 2, 2, 5]
```

```
def stringList(str1):
    return str1.split()

def count_words(str1):
    w_lst=stringList(str1)
    lst=[]
    for word in w_lst:
        l=len(word)
        lst=lst+[l]
    return lst
```

1. Rewrite the function `count_words` using list comprehension. Call this function `count_word2`.

```
>>> count_words2("This is a test to check the values on an
input")
[4, 2, 1, 4, 2, 5, 3, 6, 2, 2, 5]
```

2. Write the function `word_count` using list comprehension which returns the number of words in the list. Note: First you may wish to create a new list with 1s and then then add up that list (using the inbuilt `sum` function).

```
>>> word_count("This is a test to check the values on an input")
11
```

3. Write the function `articles` using list comprehension which takes a string as an argument, first it converts it to a list of strings, and then creates a new list which only contains the articles that were in the list. [Note: Only words that are articles i.e. 'a', 'an' or 'the' should be included in the resultant list, all other words should be ignored.]

```
>>> articles("This is a test to check the values on an input")
['a', 'the', 'an']
```

4. Write the function `countarticles` using list comprehension which takes a string as an argument and returns the number of articles in the given string. [Note: You can use the function `articles` written above and an inbuilt function `sum` which adds all elements in a list.]

```
>>> countarticles("This is a test to check the values on an
input")
3
```