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**Homework.ipynb**



**Pierian-Data** added image link to all notebooks

Latest commit c6d506f on Jun 25, 2020 [History](#)

 1 contributor

417 lines (417 sloc) | 8.47 KB



Raw

Blame





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## Functions and Methods Homework

Complete the following questions: \_\_\_\_ **Write a function that computes the volume of a sphere given its radius.**

The volume of a sphere is given as

$$\frac{4}{3}\pi r^3$$

```
In [1]: def vol(rad):  
        pass
```

```
In [2]: # Check  
        vol(2)
```

```
Out[2]: 33.49333333333333
```

---

**Write a function that checks whether a number is in a given range (inclusive of high and low)**

```
In [3]: def ran_check(num,low,high):  
        pass
```

```
In [4]: # Check  
        ran_check(5,2,7)
```

5 is in the range between 2 and 7

If you only wanted to return a boolean:

```
In [5]: def ran_bool(num,low,high):  
        pass
```

```
In [6]: ran_bool(3,1,10)
```

Out[6]: True

---

**Write a Python function that accepts a string and calculates the number of upper case letters and lower case letters.**

Sample String : 'Hello Mr. Rogers, how are you this fine Tuesday?'

Expected Output :

No. of Upper case characters : 4

No. of Lower case Characters : 33

HINT: Two string methods that might prove useful: **.isupper()** and **.islower()**

If you feel ambitious, explore the Collections module to solve this problem!

```
In [7]: def up_low(s):  
        pass
```

```
In [8]: s = 'Hello Mr. Rogers, how are you this fine Tuesday?'  
up_low(s)
```

Original String : Hello Mr. Rogers, how are you this fine Tuesday?

No. of Upper case characters : 4

No. of Lower case Characters : 33

---

**Write a Python function that takes a list and returns a new list with unique elements of the first list.**

Sample List : [1,1,1,1,2,2,3,3,3,3,4,5]

Unique List : [1, 2, 3, 4, 5]

```
In [9]: def unique_list(lst):  
pass
```

```
In [10]: unique_list([1,1,1,1,2,2,3,3,3,3,4,5])
```

```
Out[10]: [1, 2, 3, 4, 5]
```

---

**Write a Python function to multiply all the numbers in a list.**

Sample List : [1, 2, 3, -4]

Expected Output : -24

```
In [11]: def multiply(numbers):  
pass
```

```
In [12]: multiply([1,2,3,-4])
```

```
Out[12]: -24
```

---

### Write a Python function that checks whether a word or phrase is palindrome or not.

Note: A palindrome is word, phrase, or sequence that reads the same backward as forward, e.g., madam,kayak,racecar, or a phrase "nurses run". Hint: You may want to check out the .replace() method in a string to help out with dealing with spaces. Also google search how to reverse a string in Python, there are some clever ways to do it with slicing notation.

```
In [13]: def palindrome(s):  
         pass
```

```
In [14]: palindrome('helleh')
```

```
Out[14]: True
```

---

### Hard:

### Write a Python function to check whether a string is pangram or not. (Assume the string passed in does not have any punctuation)

Note : Pangrams are words or sentences containing every letter of the alphabet at least once.  
For example : "The quick brown fox jumps over the lazy dog"

Hint: You may want to use .replace() method to get rid of spaces.

Hint: Look at the [string module](#)

Hint: In case you want to use [set comparisons](#)

```
In [15]: import string  
  
def ispangram(str1, alphabet=string.ascii_lowercase):  
    pass
```

```
In [16]: ispangram("The quick brown fox jumps over the lazy dog")
```

```
Out[16]: True
```

```
In [17]: string.ascii_lowercase
```

```
Out[17]: 'abcdefghijklmnopqrstuvwxyz'
```

**Great Job!**