08-Functions and Methods Homework

July 30, 2019

1 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

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

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

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

[2]:
```
33.49333333333333
```

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

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

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

```
5 is in the range between 2 and 7
```

If you only wanted to return a boolean:

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

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

[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!

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

[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]
```

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

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

[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
```

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

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

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

Write a Python function that checks whether a passed in string is palindrome or not.
Note: A palindrome is word, phrase, or sequence that reads the same backward as forward, e.g., madam or nurses run.

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

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

[14]:
```
True
```

Hard: Write a Python function to check whether a string is pangram or not.

```
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: Look at the string module

[15]:
```
import string

def ispangram(str1, alphabet=string.ascii_lowercase):
    pass
```

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

[16]:
```
True
```

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

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

Great Job!