methods_and_functions_part1_hw_solution

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1 Methods and Functions - Part 1 Homework

1.0.1 Practicing basics of functions

write a function that takes username, age, and phone number and prints them in the following format: ==========
Username: James Age: 36 Phonenumber: 5552347889 ==========

[2]:
```
def print_info(name, age, phone):
    print("================================================")
    print("Username:", name)
    print("Age:", age)
    print("Phonenumber:", phone)
    print("================================================")
```

[3]:
```
print_info("Cillian Murphy", 18, 555207478)
```

```
================================================
Username: Cillian Murphy
Age: 18
Phonenumber: 555207478
================================================
```

Write a function that multpliles all number in a list: sample input: [2,3,4,5] sample output: 120

[4]:
```
def multiply(arr):
    result = 1
    for i in arr:
        result *= i
    return result
```

[5]:
```
print(multiply([2,3,4,5]))
```

```
120
```

Write a function that reverses a string: sample input: "The Dark Night" sample output: "thgiN kraD ehT"

[10]:
```
def reverse(in_str):
    reverse_str = ""
```

```
    for i in range(len(in_str)-1, -1,-1):
        reverse_str += in_str[i]
    return reverse_str
```

[11]:
```
print(reverse("The Dark Night"))
```

```
thgiN kraD ehT
```

Write a function that accepts a string and prints the number of upper case letters and lower case letters:

[39]:
```
def count_letters(in_str):
    lower_letters = 0
    upper_letters = 0
    for char in in_str:
        if char.isupper():
            upper_letters += 1
        else:
            lower_letters += 1
    print("Lower letters count:", lower_letters)
    print("Upper letters count:", upper_letters)
```

[40]:
```
count_letters("Robert Cecil Martin")
```

```
Lower letters count: 16
Upper letters count: 3
```

Complete the function below, to take a list and return a new list with unique elemnts of the first list: Sample input: [1,2,3,3,3,3,4,4,5] Sample output: [1,2,3,4,5]

[14]:
```
def make_unique(nums):
    unique_nums = []
    for i in nums:
        if not i in unique_nums:
            unique_nums.append(i)
    return unique_nums
```

[15]:
```
print(make_unique([1,2,3,3,3,4,4,5]))
```

```
[1, 2, 3, 4, 5]
```

Write a function to calculate the factorial of a number

[16]:
```
def factorial(n):
    factorial = 1
    for i in range(1, n+1):
        factorial = factorial * i
    return factorial
```

[17]:
```
print(factorial(5))
```

```
120
```

Write a function to check wether a number falls in a given range or not.

[10]:
```
def in_range(num, start, end):
    for i in range(start, end+1):
        if num == i:
            return True
    return False
```

[19]:
```
#Better way to do the above:
def in_range(num, start, end):
    if num in range(start, end+1):
        return True
    else:
        return False
```

[20]:
```
print(in_range(5,4,8))
print(in_range(2,3,7))
```

```
True
False
```

Write a function that checks wether a string is pangram or not(returns True or False).

[23]:
```
def is_pangram(in_str):
    for i in range(len(in_str)//2):
        if in_str[i] != in_str[len(in_str)-i-1]:
            return False
    return True
```

[44]:
```
#Better way to do the above:
def is_pangram(in_str):
    if in_str[0:len(in_str)//2] == in_str[-1:len(in_str)//2: -1]:
        return True
    return False
```

[45]:
```
print(is_pangram("lady"))
print(is_pangram("abcdedcba"))
```

```
False
True
```

Write a function that creates a list of even numbers between 10 and 30.

[21]:
```
def create_list():
    numbers = []
    for i in range(10,30,2):
        numbers.append(i)
    return numbers
```

[48]:
```
#Better way to the above:
def create_list():
    numbers = [x for x in range(10,30,2)]
    return numbers
```

[49]:
```
print(create_list())
```

```
[10, 12, 14, 16, 18, 20, 22, 24, 26, 28]
```

Write a function that takes a number as a parameter and checks wether the number is prime or not.

[30]:
```
def is_prime(num):
    for i in range(2,num):
        if num%i==0:
            return False
    return True
```

[31]:
```
print(is_prime(26))
print(is_prime(41))
```

```
False
True
```

Write a function calculation that accepts two variables as input and caluclates both subtraction and addition of them and returns both values in a single return call.

[33]:
```
def calculation(x, y):
    add = x+ y
    sub = x-y
    #returning a tuple, this method is used
    #when we want to return multiple values in a single function call:
    return (add,sub)
```

[34]:
```
print(calculation(5,8))
```

```
(13, -3)
```