WP - Python Assignment 2

Br Sp II - Web Programming
Division F | Batch F1

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1. Python Program to count the number of vowels in a string.

```
# Q1
str1 = input("Enter the string - ")
count = 0
for letter in str1:
    if letter.lower() == "a" or letter.lower() == "e" or
letter.lower() == "i" or letter.lower() == "o" or letter.lower()
== "u":
            count +=1
    else:
        pass
print("No. of vowels in given string =", count)
```

```
Enter the string - hi ehllo
No. of vowels in given string = 3
```

2. Python Program to reverse a given number.

```
# Q2
num = input("Enter a number - ")
numR = num[-1::-1]
print("Reversed Number - ", numR)
```

```
Enter a number - 42362
Reversed Number -  26324
```

3. Python Program to count the number of digits in a number.

```
# Q3
n = input("Enter the number - ")
l = len(n)
print("No. of digits in number -", l)
```

```
Enter the number - 4535
No. of digits in number - 4
```

4. Python Program to find the factorial of a number with and without using recursion.

```
# Q4
def fact(n):
    if n == 1:
        return 1
    else:
        return n*fact(n-1)

n = int(input("Enter the number - "))
print("Factorial with recursion -", fact(n))
fact = 1
for i in range(1, n+1):
    fact *= i
print("Factorial without recursion -", fact)
```

```
Enter the number - 6
Factorial with recursion - 720
Factorial without recursion - 720
```

5. Python Program to find the power of a number using recursion.

```
# Q5
a = int(input("Enter the base -"))
A = a
b = int(input("Enter the power -"))
for i in range(1,b):
    a *= A;
print("Power of", A, "is", a)
```

```
Enter the base -3
Enter the power -2
Power of 3 is 9
```

6. Python Program to find the sum of series: 1 + 1/2 + 1/3 + ... + 1/N.

```
# Q6
n = int(input("Enter the no. of terms - "))
sum = 0
for i in range(1, n+1):
    sum += (1/i)
print("Sum is -", sum)
```

```
Enter the no. of terms - 6
Sum is - 2.4499999999999997
```

7. Define a function that accepts roll number and returns whether the student is present or absent.

```
# Q7
present = list(map(int, input("Enter roll nos. space separated:
").split()))
rolln = int(input("Enter the roll no.: "))
if rolln in present:
    print("-- Present --")
else:
    print("-- Absent -")
```

```
Enter roll nos. space separated: 1 2 3 4 5 6 7 8
Enter the roll no.: 3
Present
```

8. Define a function in python that accepts 3 values and returns the maximum of three numbers.

```
# Q8
A = input("1st Number: ")
B = input("2nd Number: ")
C = input("3rd Number: ")
a, b, c = float(A), float(B), float(C)
if a > b and a > c:
    print("Largest is", A)
elif b > a and b >c:
    print("Largest is", B)
else:
    print("Largest is", C)
```

```
Enter the radius - 10
Area of the circle for given radius -  314.0
```

9. Define a function that accepts radius and returns the area of a circle.

```
# Q9
def areaCircle(r):
    return 3.14*(r**2)

rad = input("Enter the radius - ")
print("Area of the circle for given radius - ",
areaCircle(float(rad)))
```

```
1st Number: 3
2nd Number: 1
3rd Number: 0
Largest is 3
```

10. A movie theater charges different ticket prices depending on a person's age. If a person is under the age of 3, the ticket is free; if they are between 3 and 12, the ticket is $10; and if they are over age 12, the ticket is $15. Write a loop in which you ask users their age, and then tell them the cost of their movie ticket

```
# Q10
x = 0
while x ==0:
    age = int(input("Age: "))
    if age < 3 and age>0:
        print("Hurray! FREE")
    elif age >=3 and age<12:
        print("Fee: $", 10)
    else:
        print("Fee: $", 15)
    c = input("Continue(Y/N): ")
    if c.upper() != "Y":
        x =1
    else:
        continue
```

```
Age: 2
Hurray! FREE
Continue(Y/N): Y
Age: 10
Fee: $ 10
Continue(Y/N): Y
Age: 4
Fee: $ 10
Continue(Y/N): y
Age: 14
Fee: $ 15
Continue(Y/N): N
```

11. Write a function called make_album() that builds a dictionary describing a music album.
    The function should take in an artist name and an album title, and it should return a dictionary containing these two pieces of information. Use the function to make three dictionaries representing different albums. Print each return value to show that the dictionaries are storing the album information correctly.
    Add an optional parameter to make_album() that allows you to store the number of tracks on an album. If the calling line includes a value for the number of tracks, add that value to the album's dictionary. Make at least one new function call that includes the number of tracks on an album.

```
# Q11
def make_album(track=0):
    art = input("Enter the name of the artist: ")
    tit = input("Enter the name of the title: ")
    d = {"artist":art, "title":tit, "track":track}
    return d

dict1 = make_album()
dict2 = make_album()
dict3 = make_album()
dict4 = make_album(10)
print(dict1)
print(dict2)
print(dict3)
print(dict4)
```

```
Enter the name of the artist: A
Enter the name of the title: B
Enter the name of the artist: CD
Enter the name of the title: E
Enter the name of the artist: F
Enter the name of the title: G
Enter the name of the artist: H
Enter the name of the title: I
{'artist': 'A', 'title': 'B', 'track': 0}
{'artist': 'CD', 'title': 'E', 'track': 0}
{'artist': 'F', 'title': 'G', 'track': 0}
{'artist': 'H', 'title': 'I', 'track': 10}
```

12. Create a list containing the names of magicians and pass it to a function called show_magicians(), which prints the name of each magician in the list.

```
# Q12
def show_magicians(mList):
    for name in mList:
        print(name)

m = ["Harry Houdini", "Penn", "Teller", "David Blaine"]
show_magicians(m)
```

```
Harry Houdini
Penn
Teller
David Blaine
```