Python Day 1 Assignment

January 31, 2025

1 Assignment Questions

1.1 Question 1

Write a program that counts up the number of vowels `[a, e, i, o, u]` contained in the string.

[1]:
```
def getNVowels(string: str):
    n = 0
    for char in string:
        if (char in ['a', 'e', 'i', 'o', 'u']):
            n += 1
    return n


print(getNVowels("hello"))
print(getNVowels("hello world"))
```

```
2
3
```

1.2 Question 2

Write a function that accepts two arguments (`length`, `start`) to generate an array of a specific length filled with integer numbers increased by one from start.

[2]:
```
def arrGen(length, start):
    return [i for i in range(start, start + length)]


print(arrGen(5, 3))
```

```
[3, 4, 5, 6, 7]
```

1.3 Question 3

Fill an array of 5 elements from the user, sort it in descending and ascending orders then display the output.

[3]:
```
def getArrayItems():
    arr = []
    for i in range(5):
        arr.append(int(input("Enter array item:")))
    arr = sorted(arr)
    arrRev = sorted(arr, reverse=True)
    return arr, arrRev


print(getArrayItems())
```

```
([2, 4, 6, 11, 33], [33, 11, 6, 4, 2])
```

1.4 Question 4

Write a function that takes a number as an argument and if the number is divisible by 3 return `Fizz`, if it is divisible by 5 return `Buzz`, and if it is divisible by both return `FizzBuzz`.

[4]:
```
def fizbuz(n):
    res = ""
    if (n % 3 == 0):
        res += 'Fizz'
    if (n % 5 == 0):
        res += 'Buzz'
    if (res == ""):
        return "Nothing"
    return res


print(fizbuz(3))
print(fizbuz(20))
print(fizbuz(15))
print(fizbuz(17))
```

```
Fizz
Buzz
FizzBuzz
Nothing
```

1.5 Question 5

Write a Python function that checks whether a passed string is palindrome or not.

Note: A palindrome is a word, phrase, or sequence that reads the same backward as forward, e.g., `madam` or `nurses run` (ignoring the spaces).

[5]:
```
def checkPalindrom(s: str):
    s = s.replace(" ", "")
```

```
    sRev = s[::-1]
    return (s == sRev)


print(checkPalindrom("hello world"))
print(checkPalindrom("madam"))
print(checkPalindrom("nurses run"))
```

```
False
True
True
```

1.6 Question 6

Write a function that takes a string and prints the longest alphabetical ordered substring occurred.

For example, if the string is `abdulrahman` then the output is: Longest substring in alphabetical order is: `abdu`.

[6]:
```
def longestSubstr(s):
    maxSubstr = ""
    currentSubstr = ""

    for i in range(len(s)):
        if i == 0 or s[i] >= s[i - 1]:
            currentSubstr += s[i]
        else:
            if len(currentSubstr) > len(maxSubstr):
                maxSubstr = currentSubstr
            currentSubstr = s[i]

    if len(currentSubstr) > len(maxSubstr):
        maxSubstr = currentSubstr

    return maxSubstr


print(longestSubstr("abdulrahman"))
```

```
abdu
```