

## CSE-101 Introduction to Programming

### TUTORIAL - 5

#### Problem 1

Given 3 integer values, a b c, return their sum. However, if any of the values is a teen, that is values between 13 and 19 (**both inclusive**), then that value counts as 0, except 15 and 16 do not count as teens.

Write a separate helper "def fix\_teen(n):" that takes in an int value and returns the fixed value according to the teen rule. In this way, you avoid repeating the teen code 3 times. Define the helper below and the main function "no\_teen\_sum()".

Examples:

```
no_teen_sum(1,2,3) returns 6
no_teen_sum(4,14,5) returns 9
no_teen_sum(2,15,1) returns 18
```

#### Problem 2

What will be the output of the following programs:

1. 

```
num = 1
def func_1():
    global num
    num += 1

def func_2():
    num =1

num +=1
print(num)
func_2()
print(num)
num +=1
func_1()
print(num)
```
2. 

```
def palindromize(S):
    return S + S[::-1]

def hyphenate(S):
    S = palindromize(S)
    n = len(S)
    return S[:n//2] + '-' + S[n//2:]
```

```

def change_case(S):
    S = hyphenate( S[0].lower() + S[1:] )
    return S

def solve(S, k):
    if k == 0 and 'A' <= S[0] <= 'Z':
        print(change_case(S))
    else:
        print(hyphenate(S))

solve("Foobar",0)
solve("fooBar",0)
solve("PythonProg",-1)

```

### Problem 3:

You have been assigned as a teaching assistant for IP course. Your job is to assign grades to students. Write a function that will take marks for a student as parameter and returns the grade.

Grading scheme is as follows:

A = (90,100]; B = (75,90]; C = (60,75], D = (45,60], F = [0,45].

### Problem 4:

Given a string **S**, and a number **K**, you need to concatenate **S**, **P** times, where **P** is defined as follows:

**P = K**, if K is divisible by 3 or 5, but not both

**P = 0**, otherwise

Note: Concatenation of “ab” x times results in addition of x extra strings in “ab”.

Eg. concatenation of “ab” 1 times results in “abab”

### Problem 5:

Write a function which takes two integer values as parameters and returns whether they have the same sign(i.e either both are positive or both are negative), different sign or at least one of them is zero (we have considered zero to be neither negative nor positive).