



HW2: Solution & Analysis


204217

1 Center a String in the Terminal

```
[ ] def centering(string,width):  
    outString = string.center(width, " ")  
    return outString  
centering("hello world", 100)
```

2 Is a Number Prime?

```
[ ] # write your function here
def isPrime(n):
    if n == 2 or n == 3:
        return True
    elif n < 2 or n % 2 == 0:
        return False
    elif n < 9:
        return True
    elif n % 3 == 0:
        return False
    r = int(sqrt(n))
    f = 5
    while f <= r:
        if n % f == 0 or n % (f + 2) == 0:
            return False
        else:
            f += 6
    return True
```



```
[ ] def isPrime(number):  
    if (number%2==0):  
        return False  
    else:  
        return True  
  
isPrime(3)
```

```
# Fuction "isPrime(num)" checks for the primality of
# the argumnent "num"
def isPrime(num):

    for i in range(2,num):
        if (num % i) == 0: # test for divisibility
            return False

    # if no divisibility found then "num" must be prime
    return True

# -----


number = int(input('please enter a number: '))

if(number < 2): # 1 is by default not a prime number but a unit
    print('Please input a number greater than 1')
else:
    if isPrime(number):
        print('True! (' ,number, 'is indeed a prime number )')
    else:
        print('False! (' ,number, 'is not prime number )')
```

3 Recursive digit sum

```
[ ] # write your function here
    # Recursive Python3 program to
    # find sum of digits of a number

    # Function to check sum of
    # digit using recursion
    def digitSum( n ):
        if n == 0:
            return 0
        return (n % 10 + digitSum(int(n / 10)))
```



```
[ ] def digitSum(number):  
    if (number<=9):  
        return number  
    else:  
        return number%10+digitSum(number//10)  
digitSum(1000)
```

```
def digitSum(num):
    sum_of_digits = 0
    if num == 0: # This occurs when n//10 results to 0
        return 0
    else:
        digit = num%10 # extracts the rightmost digit off of num
        sum_of_digits = sum_of_digits + digit
        num = num//10 # Removes the rightmost digit off of num
        return sum_of_digits + digitSum(num)
```