

Jackson Diamond
COSC 330

After watching your video I changed my functions to match yours which were much simpler. I found the video very helpful obviously. I didn't quite get to the last question also. My work next week will be better and more cleaned up. Have a good weekend!

```
#!/usr/bin/env python3
# -*- coding: utf-8 -*-
"""
```

Created on Thu Sep 9 22:13:12 2021

```
@author: jackson
"""
```

```
def conv_DecToBin(x):
    res = []
    while(x != 0):
        res.append(x*2)
        x = x//2
    res.reverse()
    return res
```

```
def conv_binToDec(x):
    res = 0
    nums_str = [int(y) for y in str(x)]
    nums_str.reverse()
    for i in range(len(nums_str)):
        res += 2**i * int(nums_str[i])
    return res
```

```
def max_dec(g):
    return 2**int(g) - 1
```

```
def counter(a, b):
    for r in range(a,b+1):
        if(r==0):
            print('[0]')
        else:
            print(conv_DecToBin(r))
```

```
def addBinary(a,b):
    return conv_binToDec(a) + conv_binToDec(b)
```

```
def one_comp(x):
    str_num = [int(e) for e in str(x)]
    for i in range(0,len(str_num)):
        if(int(str_num[i])==1):
            str_num[i]=0
            continue
        if(int(str_num[i])==0):
            str_num[i]=1
            continue
```

```
    return str_num
```

```
def two_comp(c):  
    str_nums = one_comp(c)  
    str_pass = ''  
    for i in str_nums:  
        str_pass += str(i)  
    return conv_DecToBin(addBinary(str_pass,1))
```

```
#!/usr/bin/env python3  
# -*- coding: utf-8 -*-  
"""
```

Created on Thu Sep 9 22:55:13 2021

```
@author: jackson  
"""
```

```
import HW1  
import sys
```

```
#2-2, 6  
print("2-2, 6")  
r = ['1110','1010','11100','10000','10101','11101','10111','11111']  
for t in r:  
    print(HW1.conv_DecToBin(t))
```

```
#2-2, 8  
print("2-2, 8")  
p = ['2','3','4','5','6','7','8','9','10','11']  
for x in p:  
    print(HW1.max_dec(x))
```

```
#2-2, 10  
print("2-2, 10")  
HW1.counter(0,7)  
print("\n")  
HW1.counter(8,15)  
print("\n")  
HW1.counter(16,31)  
print("\n")  
HW1.counter(32,63)  
print("\n")  
HW1.counter(64,123)  
print("\n")
```

```
#2-3, 13  
print("2-3, 13")  
v = ['15','21','28','34','40','59','65','73']  
for i in v:  
    print(HW1.conv_DecToBin(int(i)))
```

```
#2-4, 15  
print("2-4,15")  
a = ['11','10','101','111','1001','1101']
```

```
b = ['01','10','11','100','101','1011']
for i,j in zip(a,b):
    print(HW1.addBinary(i,j))

#2-5, 19
print("2-5,19")
print("1111 =>",HW1.one_comp(1111))
print("11111111 =>",HW1.one_comp(11111111))

#2-6, 28
print("2-6, 28")
l = ['10011001','01110100','10111111']
for c in l:
    print(HW1.two_comp(c))

#2-6 , 29
print("2-6, 29")
y = ['0111110000101011','100110000011000']
```