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COSC 311

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Question 1:

```
num = 1
total = 0
evenTotal = 0
oddTotal = 0
while(num <= 20):
    total += num
    print(total)
    if((num % 2) == 0):
        evenTotal += num
    else:
        oddTotal += num
    num += 1
print('The sum of all even numbers in the set is ' + str(evenTotal))
print('The sum of all odd numbers in te set is ' + str(oddTotal))
```

```
1
3
6
10
15
21
28
36
45
55
66
78
91
105
120
136
153
171
190
210
The sum of all even numbers in the set is 110
The sum of all odd numbers in te set is 100
```

Question 2:

```
def weatherFunc():
    print('Use this program to determine if you should play tennis given the current weather')
    outlook = input('How is the outlook for today? Type "Sunny", "Overcast", or "Rain" ')
    if(outlook == 'Overcast'):
        print('Yes')
    elif(outlook == 'Sunny'):
        humidity = input('How is the humidity for today? Type "Normal" or "High" ')
        if(humidity == 'Normal'):
            print('Yes')
        else:
            print('No')
    else:
        rain = input('How is the rain for today? Type "Weak" or "Strong" ')
        if(rain == 'Weak'):
            print('Yes')
        else:
```

```
        print('No')
weatherFunc()
```

Outlook	Humidity	Wind
Sunny	High	Weak
Overcast	Normal	Strong
Rain	High	Strong

```
Use this program to determine if you should play tennis given the current weather

How is the outlook for today? Type "Sunny", "Overcast", or "Rain" Sunny

How is the humidity for today? Type "Normal" or "High" High
No

In [3]: runfile('C:/Users/ajmek/OneDrive/Desktop/COSC 311/Homework 1/HW1.2.py', wo
OneDrive/Desktop/COSC 311/Homework 1')
Use this program to determine if you should play tennis given the current weather

How is the outlook for today? Type "Sunny", "Overcast", or "Rain" Overcast
Yes

In [4]: runfile('C:/Users/ajmek/OneDrive/Desktop/COSC 311/Homework 1/HW1.2.py', wo
OneDrive/Desktop/COSC 311/Homework 1')
Use this program to determine if you should play tennis given the current weather

How is the outlook for today? Type "Sunny", "Overcast", or "Rain" Rain

How is the rain for today? Type "Weak" or "Strong" Strong
No
```

Question 3:

```
L = input('Input side length. Any length less than 2 will be rejected and asked to input again ')
L = int(L)
while(L < 2):
    L = input('Input less than 2. Please try again ')
    L = int(L)
for i in range(L):
    print(' ' * (L - i - 1) + '*' * (L + (i * 2)) + ' ' * (L - i - 1))
for i in range(L - 2):
    print('*' * ((L * 2) + (L - 2)))
```

for i in range(L):

    print(' ' * (i) + '*' * (((L * 2) + (L - 2)) - (i * 2)) + ' ' * (i))

```
Input side length. Any length less than 2 will be rejected and asked to input again 5
    *****
   *******
  *********
 ***********
*************
*************
*************
*************
*************
 ***********
  *********
   *******
    *****
```

```
Input side length. Any length less than 2 will be rejected and asked to input again 8
       ********
      **********
     ************
    **************
   ****************
  ******************
 ********************
**********************
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**********************
**********************
 ********************
  ******************
   ****************
    **************
     ************
      **********
       ********
```

```
Input side length. Any length less than 2 will be rejected and asked to input again 1

Input less than 2. Please try again 2
 **
****
****
 **
```

Question 4:

import random

```
x = 100
i = 0
totalRolls = [0] * 12
for i in range(x):
    oneDie = random.randint(1,6)
    twoDie = random.randint(1,6)
    total = oneDie + twoDie
    totalRolls[total - 1] += 1
    i += 1
for i, j in enumerate(totalRolls):
    if(i == 0):
        continue
    rollProb = float(j) / x
    print(i + 1, ":", '{: .2%}'.format(rollProb))
```

```
N =  100
2 :  3.00%
3 :  9.00%
4 :  6.00%
5 :  11.00%
6 :  14.00%
7 :  16.00%
8 :  17.00%
9 :  11.00%
10 :  7.00%
11 :  3.00%
12 :  3.00%
```

```
N =  100000
2 :  2.80%
3 :  5.70%
4 :  8.38%
5 :  11.13%
6 :  13.89%
7 :  16.60%
8 :  13.84%
9 :  11.05%
10 :  8.22%
11 :  5.59%
12 :  2.78%
```