For Loops

1. Prepare pseudocode and code for this problem. You are to ask the use for amount to invest in a CD. Also ask the used for interest rate of CD. Lastly, ask the user for a term in years.

Display simple interest by year

Principle: 1000.00

Rate: 10%

Term in years: 3

Year 1:

Starting amount: 1000.00

Interest: 100.00

End year balance: 1100.00

Year 2:

Starting amount: 1100.00

Interest: 110.00

End year balance 1210.00

Year 3:

Staring amount: 1210.00

Interest: 121.00

End year balance: 1321.

P = float(input(**'Enter principal amount: $'**))  
r = float(input(**'Enter annual interest rate %'**))  
n = float(input(**'Enter number of times per year interest has compounded: '**))  
t = float(input(**'Enter number of years account will be left to earn interest: '**))  
  
r /= 100 *# 50% = .50*A = P \* ((1 + (r / n))\*\*(n \* t))  
  
print(**'After '**, t, **' years, $'**, format(A, **',.2f'**), **' will be in the account. '**, sep=**''**)

1. Prepare a Flowgorithm and code for this problem. You must use a for loop structure.

Display a list of numbers from 1 to 10, but display this list 5 times. Hint: use nested for loops.

Output example:

1

2

3

4

5

6

7

8

9

10

1

2

3

4

5

6

7

8

9

10

Etc 3 more times

*# Intialize an empty list*squares = []  
for d in range(1,10):  
 *# Append the next square to the list* squares.append(d\*\*2)  
print(squares)

1. Fibonacci Sequence is a natural sequence found in nature. The sequence is …..

fibonacci\_numbers = [1,1]  
for n in range(2,15):  
 fibonacci\_n = fibonacci\_numbers[n-1] + fibonacci\_numbers[n-2]  
 fibonacci\_numbers.append(fibonacci\_n)  
 print(fibonacci\_numbers)

1, 1, 2, 3, 5, 8, 13, 21……

Write a loop to display the first 10 numbers in the Fibonaci sequence. No pseudocode necessary.