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: 1321.00

Get investment amount

Get interest rate

Get term amount

Loop from 1 to term amount

Calculate interest

Calculate balance

Display starting amount

Display interest rate

Display terms

Display each year

Display interest

Display balance

print("Enter investment amount = $")

investAmount = float(input())

print("Enter interest rate = %")

interestRate = float(input())

print("Enter terms = ")

term = int(input())

balance = investAmount

print("Starting amount: $" + str(investAmount))

print("Rate: " + str(interestRate) + "%")

print("Terms = " + str(term))

for year in range(1, term + 1, 1):

print("Year " + str(year) + ": ")

print("Starting amount: $" + str(balance))

interest = interestRate / 100 \* balance

balance = balance + interest

print("interest: $" + str(interest))

print("End year balance: $" + str(balance))

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

for loops in range(1, 5 + 1, 1):

for number in range(1, 10 + 1, 1):

print(number)

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

1, 1, 2, 3, 5, 8, 13, 21……

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

number2 = 1

number1 = 0

for loop in range(1, 10 + 1, 1):

number1 = number1 + number2

number2 = number1 - number2

print(number1)