Assignment #06 – FOR LOOPS (Worth 15 points)

RESOURCES NEEDED TO COMPLETE ASSIGNMENT

- See Videos in CONTENT LINK FOR LOOPS AND the RANDOM MODULE
- CHAPTER 4 (Practice Program Exercises 4-17)

DESCRIPTION FOR ASSIGNMENT #06

CHAPTER 4 - PROBLEM #10 - TUITION INCREASE

At one college, the tuition for a full-time student is (Test Data) \$8,000 per semester. It has been announced that the tuition will increase by 3 percent each year for the next 5 years. Write a program with a FOR loop that displays the projected semester tuition amount for the next 5 years.

INPUT VARIABLES & PRELIMINARY OUTPUT:

Be sure to write the program so that the user may enter the following (These statements are outside the FOR LOOP):

- Ask user to enter the starting tuition [variable used]
 - tuition
 - o data type real / float)
- Ask user to enter the percent increase indicate how the user is to enter the percent increase (as a decimal value such as 0.03 or as a percent amount i.e. 3) [variable used]
 - percentIncrease
 - o data type real/float
- Ask user to enter the number of years for the projected percent increase [variable used]
 - years
 - (data type integer)

Using variables as requested above, allows the program to be flexible and not set to a specific starting tuition, % increase and number of years.

Display the following (or similar labels) prior to the FOR-LOOP: ==================================	
PROCESSING & OUTPUT FOLLOW:	UT - USE FOR LOOP TO EXPRESS THE
• Use one of the following	ng formula to calculate the projected tuition
tuition = (tuition * p	percentIncrease) + tuition
tuition = tuition * (1	l + percentIncrease)
Display the tuition year next column	ar in one column, and corresponding tuition in the
HINT: Both the formula and	display need to be inside the FOR / LOOP
FINAL OUTPUT [FOLLO	WING THE FOR-LOOP:
THESE PROJECTIONS REFLEC	T A 3.00% ANNUAL INCREASE.

PART 1. TUITION INCREASE: (Problem #10)

You Use flowgorithm or Visio, to outline.

FLOWCHART:

- 1. USE THE FOR-LOOP construct to design the flowchart
- 2. Please follow the previous instructions concerning INPUT, PROCESSING and OUTPUT

SAVE FLOWCHART FILE AS:

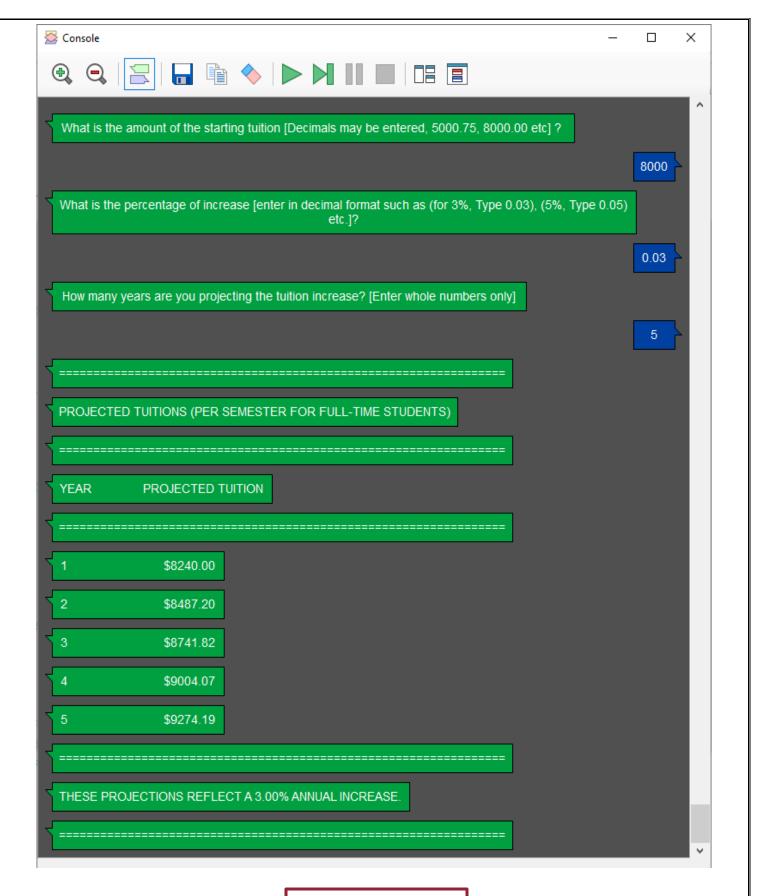
3. Lastname_firstname_A6_Tuition_Increase.frpg (Worth 3 points)

RUN / EXECUTE FLOWCHART PROGRAM:

Your FLOWGORITHM Results will resemble the following

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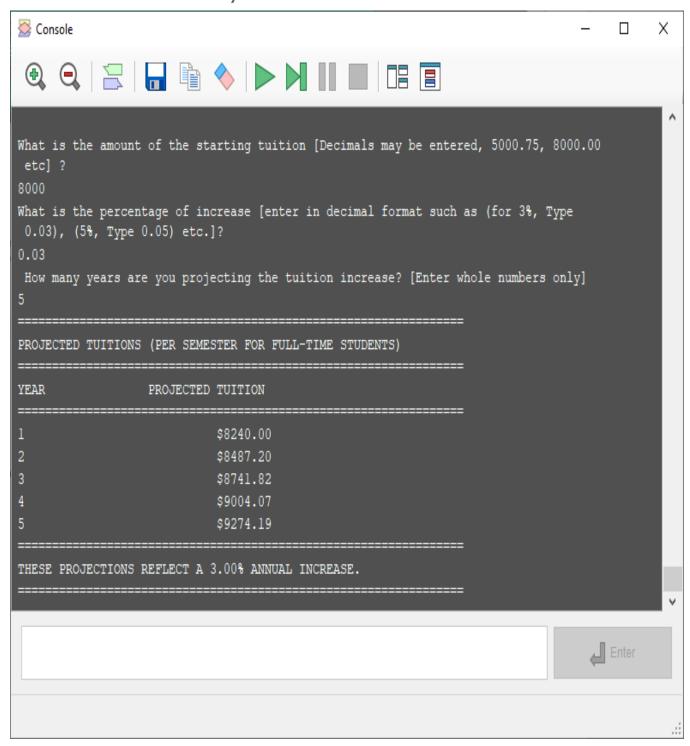


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RUN / EXECUTE FLOWCHART/ TEXT VIEW

CLICK CHAT BUBBLE / TEXT VIEW



SAVE FLOWGORITHM OUTPUT / RESULTS:

Lastname_firstname_A6_Tuition_Increase_Flow_Output.txt (worth points)

PART 2. PYTHON VERSION

- 1. Convert the flowgorithm program into python code
- 2. Use the f' string or format function to display the results as follows
- 3. Make sure comments are throughout the program
- 4. Make sure your output aligns by values and is attractive
- 5. Save the python file as:

Lastname_firstname_A6_Tuition_Increase.py

RUN / EXECUTE PYTHON PROGRAM:

The results should resemble the following:

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What is the amount of the starting tuition [Decimals may be entered, 5000.75, 8000.00 etc] ?
8000
What is the percentage of increase [enter in decimal format such as (for 3%, Type 0.03), (5%, Type 0.05) etc.]?
0.03
How many years are you projecting the tuition increase? [Enter whole numbers only]
15
    PROJECTED TUITIONS (PER SEMESTER FOR FULL-TIME STUDENTS)
YEAR
                                             PROJECTED
                                                8,240.00
 2
                                                8,487.20
 3
                                                8,741.82
                                                9,004.07
                                                9,274.19
                                                9,552.42
 7
                                                9,838.99
                                               10,134.16
 9
                                               10,438.19
10
                                              10,751.33
11
                                              11,073.87
12
                                               11,406.09
13
                                              11,748.27
14
                                               12,100.72
15
                                               12,463.74
       THESE PROJECTIONS REFLECT A 3.00% ANNUAL INCREASE.
>>>
```

6. Save the python output file as:

Lastname_firstname_A6_Tuition_Increase_Python_Output.txt

Submit the following files to the designated drop box

Lastname_firstname_A6_Tuition_Increase.frpg (Worth 3 points)

Lastname_firstname_A6_Tuition_Increase_Flow_Output.txt (worth points)

Lastname_firstname_A6_Tuition_Increase.py (worth 8 points)

Lastname_firstname_A6_Tuition_Increase_Python_Output.txt (worth 2 points)

Because LOOPS are extremely significant in programming, make sure you understand them. Obtain assistance from your Professor.