HACKTIV8

Non Graded Challenge : Python Function, Conditional, and Loop

FTDS Phase 0 - Week 1

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Non Graded Challenge

Objective

This Non Graded Challenge was created to evaluate the concept of Python Function, Conditional, and Loop with the aim of:

1. Get a grip of python function, conditional, and loop logic.
2. Able to implement python function, conditional, and loop to solve logic cases.

Non Graded Challenge

Task #1 - Number of Word

Create a function that count the number of word in a sentence.

***Instruction*:**

1. Create function called `number_of_word`.
2. This function takes 1 input, `sentence`.
3. Inside this function, you can utilize **`.split()`** method to split the sentence into list of word(s).
4. Also, **`len()`** function to count the element inside a list.
5. Return the number of word from the sentence.

Example:

- Input : number_of_word(sentence = 'Hello World!')
- Output : 2

- Input : number_of_word(sentence = 'Once Upon a Time in a faraway land')
- Output : 8

Non Graded Challenge

Task #2 - Find Multiple

Create a function that will get list of number(s) from a certain range that multiples of given number.

***Instruction*:**

1. Create function called `find_multiples`.
2. This function takes 3 input: `start_range`, `end_range`, and `multiple`.
3. From every number within the given range, check if that number is the mutliples of `multiple`.
4. Return list of the possible multiple number(s).

Example:

- Input : find_multiple(start_range= 1, end_range= 20, multiple= 5)
- Output : [5, 10, 15, 20]

- Input : find_multiple(start_range= 1, end_range= 50, multiple= 10)
- Output : [10, 20, 30, 40, 50]

Non Graded Challenge

Task #3 - Grade Converter

Create a function that will convert student's grade to GPA.

***Instruction*:**

1. Create function called `Grade_Converter`.
2. This function takes input: `convert_to` and *n*-paired of student(s) name with its respective score.
3. Input argument for `convert_to` is either **`letter_grade`** or **`gpa`**.
4. You can utilize ****kwargs*** input argument to generate n-length paired of student(s) name with its respective score (Dictionary).
5. This function will return dictionary of student's name along with converted Letter Grade or GPA, depending on user input in `convert_to` parameter.

Score	Letter Grade	GPA 4.0 Scale
85 - 100	A	4
70 - 84,99	B	3
60 - 69,99	C	2.5
50 - 59,99	D	2
40 - 49,99	E	1.5
0 - 39,99	F	1

Non Graded Challenge

Task #3 - Grade Converter

Create a function that will convert student's grade to GPA.

Example:

- **Input** : `Grade_Converter(convert_to='gpa', Adam=62, Faiz=91)`
- **Output**: `{'Adam': 2.5, 'Faiz': 4}`

- **Input** : `Grade_Converter(convert_to='letter_grade', Albert=90, Dwi=82, Syahdan=58, Veronica=84)`
- **Output**: `{'Albert': 'A', 'Dwi': 'B', 'Syahdan': 'D', 'Veronica': 'B'}`

Score	Letter Grade	GPA 4.0 Scale
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Non Graded Challenge

Task #4 - Fibonacci Sequence

Fibonacci sequence is a sequence in which each number is the sum of the two preceding ones. Suppose we have fibonacci sequence started with:

0, 1, 1, 2, 3, 5, ...

The next number should be **8** or sum of the two precedings, 3 and 5:

0, 1, 1, 2, 3, 5, **8**, ...

Then the next number should be **13** or sum of the two precedings, 5 and 8:

0, 1, 1, 2, 3, 5, 8, **13**, ...

And so on.

Non Graded Challenge

Task #4 - Fibonacci Sequence

create a function that will return the value of *n*-th fibonacci number.

Instruction:

1. The function will take 1 input parameter, *n*, represents the asked number from our fibonacci sequence index.
2. The fibonacci sequence will start with the value of 0 and 1.
3. This function will return the *n-th* value from fibonacci sequence.

example:

Fibo_Seq	0	1	1	2	3	4	8	13	21	34	55	…
n-th	0	1	2	3	4	5	6	7	8	9	10	…

- Input : my_function(n=**0**)
- Output : **0**

- Input : my_function(n=**4**)
- Output : **3**

- Input : my_function(n=**10**)
- Output : **55**

Non Graded Challenge

Submission

1. Create a file to store your answers in *.ipynb*.
2. Save this assignment with filename : *h8dsft_ngc_python_function_conditional_loop.ipynb*.
3. Push your answer into your own GitHub repository.

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Thank You

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