

CSE 1300 - Assignment 2 Spring 2024

Description:

This assignment is designed to cover data types, input/output, and operators so only content from Module 3 is necessary for your program. You can use content from later modules, but it is not required.

These should all be written in one (1) Python file, do not create or submit multiple files.

Hello Dave: HAL 9000 is the ship's computer from the movie 2001: A Space Odyssey. You are going to write simple program to [greet your user like HAL 9000](#) (even if their name is not Dave).

Your program should ask the user to enter their name with an appropriate prompt and then greet your user with the statement "Hello {name}, you're looking well today."

Sample Input (in Bold)/Output:

```
Please enter your name: Douglas
Hello Douglas, you're looking well today.
```

Math Mad Libs: In traditional Mad Libs, you're given a paragraph of text with blanks; you then fill in those blanks to create an amusing or silly story. In this program, we will do the same thing – but with numbers!

You will print out the following equation as a string literal: $x + (y / z) * w = ?$

You will then prompt the user (using the name entered above) to enter one integer (make sure to type the data appropriately) at a time, replacing the variables from left to right with those numbers and updating string on the screen. After the last number is entered, you will print the full equation with the solution replacing the "?" question mark.

Sample Input (in Bold)/Output:

```
x + (y / z) * w = ?
Douglas, please enter integer for x: 1
1 + (y / z) * w = ?
Douglas, please enter integer for y: 1
1 + (1 / z) * w = ?
Douglas, please enter integer for z: 3
1 + (1 / 3) * w = ?
Douglas, please enter integer for w: 8
1 + (1 / 3) * 8 = 3.6666666666666665
```

Note: Do not worry about the number of decimal places and you can assume the user does not enter a zero (0) for z.

Tipping Etiquette: It is customary in the United States to include a tip when purchasing a meal (or having one delivered). Recommendations for how much of a tip vary depending on who you ask, but the general range is somewhere between 10% on the low end and 20%. Since not

everyone is great at calculating in their head, we're going to build a small program to show the user the price with either a 15%, 20% and 25% tip applied.

You will prompt the user (using their name that was previously entered) to enter the following information:

- Price of the Meal
- Tax Rate (as a percentage)
- Delivery Fee

You should store these values as appropriately typed data, and use them to calculate the following intermediate values:

- Tax Amount ($\text{Price of the Meal} * \text{Tax Rate}/100$)
- Subtotal ($\text{Price of the Meal} + \text{Delivery Fee}$)
- 15% Tip ($\text{Subtotal} * 15\%$)
- 20% Tip ($\text{Subtotal} * 20\%$)
- 25% Tip ($\text{Subtotal} * 25\%$)
- Total with 15% Tip ($15\% \text{ Tip} + \text{Subtotal} + \text{Total Tax}$)
- Total with 20% Tip ($20\% \text{ Tip} + \text{Subtotal} + \text{Total Tax}$)
- Total with 25% Tip ($25\% \text{ Tip} + \text{Subtotal} + \text{Total Tax}$)

You will then print the results to the user.

Sample Input (in Bold)/Output:

Douglas, please enter the price of the meal \$ **50**

Douglas, please enter the tax rate: **6**

Douglas, please enter the delivery fee \$ **5**

Douglas, your total with 15% tip is \$ 66.25

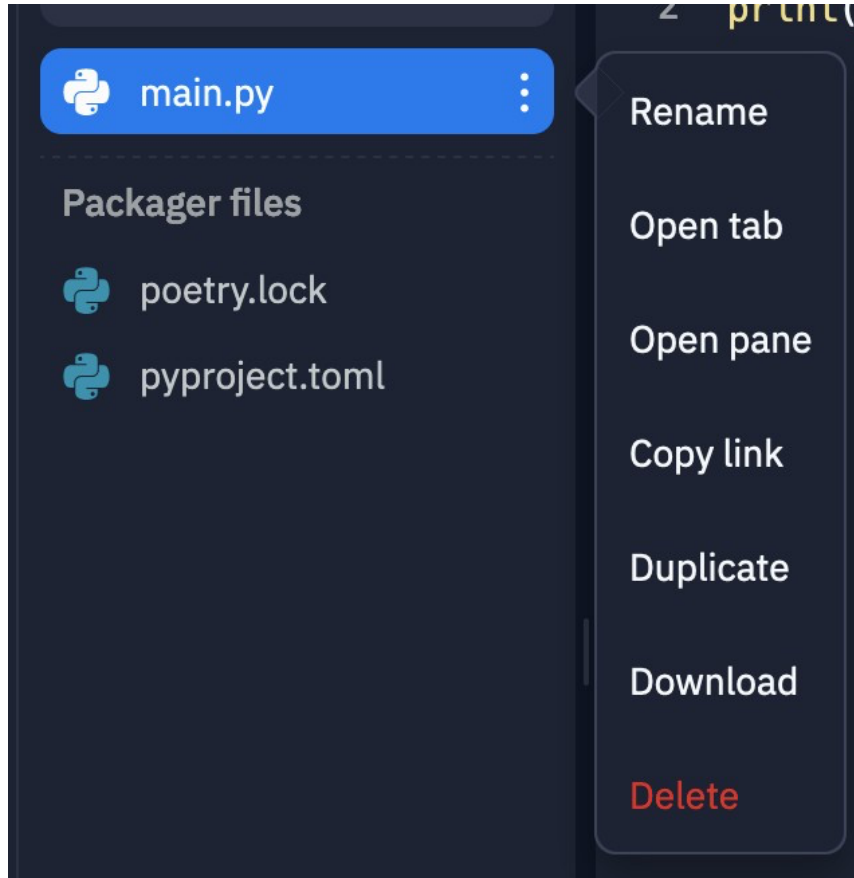
Douglas, your total with 20% tip is \$ 69.0

Douglas, your total with 25% tip is \$ 71.75

Note: Do not worry about the number of decimal places and you can assume the user does not enter a zero (0) for tax rate. Make sure to remember order of operations when doing the calculations.

Submission Instructions:

1. All your code should be in a single Python (.py) file. The file name does not matter, the examples below assume you used Replit to create your program.
2. Once you are happy with your program, download your main.py by clicking the Menu button (three vertical dots) next to main.py and selecting Download:



3. Go to [Gradescope](#), find Assignment 2 under “Assignments”, and submit the main.py file.
4. After submitting, click Code in the upper right to verify that your file was uploaded correctly and that it is the correct Python file and file type (.py).



5. Be sure to submit before the deadline.
6. Do not submit any multiple or zipped files, just submit the single Python (.py) file.