Python Chapter 2: Leave a Tip for Laurie

Contents

Red light, No AI

Time required: 60 minutes

- Comment each line of code as shown in the tutorials and other code examples.

- Follow all directions carefully and accurately.

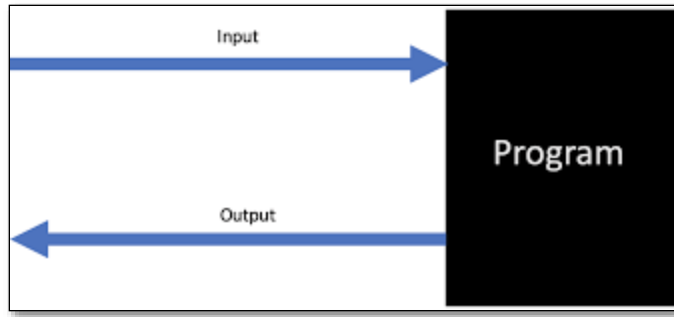- Think of the directions as minimum requirements.

Pseudocode

1. Write pseudocode or TODO for the exercise

2. Submit with the assignment

Input Output

All programs have some form of input and output. This input and output is always a string. If you want your input to be a float or an int, you must use the int() or float() function around the input() function.

```
var = int(input("Enter an integer: ")
var = float(input("Enter a float: ")
```

TODO

A TODO outline is a form of pseudocode. It is a way of thinking through and solving the problem before you write the code.

You can copy and paste the following TODO into your Python program file to help get started with your program.

```python
# Create constants for tax rate and tip rate
TAX_RATE = 0.07
TIP_RATE = 0.18

# TODO: Get the food charges from the user

# TODO: Calculate the sales tax (food charge * sales tax)

# TODO: Calculate the meal price (food charge + sales tax)

# TODO: Calculate the tip, (food charge * tip) The tip is not taxed

# TODO: Calculate the total, (food charge + tip)

# TODO: Print the tax
# TODO: Print the meal price
# TODO: Print the tip
# TODO: Print the total
```

Requirements

Laurie is a waitress at a local restaurant. She wants to make sure she gets her full tip from each customer.

Write a program for Laurie that calculates the total amount of a meal purchased. The program should let Laurie enter the charge for the food. The program should calculate the amounts of an 18 percent tip and 7 percent sales tax. Display each of these amounts and the total.

Hint: Use the value 0.18 to represent 18 percent, and 0.07 to represent 7 percent. Use constants to represent these numbers. No magic numbers please.

1. Create a Python program named **leave_a_tip.py** that gets input from the user and prints out the information shown.

2. Create constants for the tip and sales tax rate. Constants are used for anything we know before the program starts. Constants go toward the top of the program.

```
TIP = 0.18
SALES_TAX = 0.07
```

3. Create variables for all inputs and outputs.

4. Use F-strings to format the number display.

Example F-strings formatting:

```
print(f"Tax: ${tax:,.2f}")
```

Example run:

```
Enter the charge for food: 25
Tax: $1.75
Meal price: $26.75
Tip: $4.50
Total: $31.25
```

Assignment Submission

1. Attach the pseudocode.

2. Attach the program files.

3. Attach screenshots showing the successful operation of the program.

4. Submit in Blackboard.

Revised: 8/31/2025