Answers to Questions from TT1.2

Name: Nguyen Thi Thanh Minh
Student ID: 104169617

1. Desk Check Task: Calculate Bill Total

Required Variables:

Real (floating point):

appetizer_price, main_price, dessert_price

total_price

Pseudocode:

Read the value of *appetizer_price*

Read the value of *main_price*

Read the value of *dessert_price*

total_price = appetizer_price + main_price + dessert_price

Print '$' then the value of *total_price* ***to the terminal showing two decimal places.***

Test Data:

	First data set	Second data set
appetizer_price	10.30	12.40
main_price	34.00	41.00
dessert_price	8.50	9.80

Expected Result:

	First data set	Second data set
Output:	$52.80	$63.20

Desk check - fill this in by hand-tracing/hand-executing the pseudocode provided with the test data above:

	Statement	*appetizer_price*	*main_price*	*dessert_price*	*total_price*	*output*
First Pass	*Read the value of appetizer_price*	*10.30*	*/*	*/*	*/*	*/*
	Read the value of main_price	*10.30*	*34.00*	*/*	*/*	*/*
	Read the value of dessert_price	*10.30*	*34.00*	*8.50*	*/*	*/*
	Calculate the total_price	*10.30*	*34.00*	*8.50*	*52.80*	*/*
	Convert to dollars	*10.30*	*34.00*	*8.50*	*52.80*	*$52.80*
	Output the total_price	*10.30*	*34.00*	*8.50*	*52.80*	*$52.80*
Second Pass	*Read the value of appetizer_price*	*12.40*	*/*	*/*	*/*	*/*
	Read the value of main_price	*12.40*	*41.00*	*/*	*/*	*/*
	Read the value of dessert_price	*12.40*	*41.00*	*9.80*	*/*	*/*
	Calculate the total_price	*12.40*	*41.00*	*9.80*	*63.20*	*/*
	Convert to dollars	*12.40*	*41.00*	*9.80*	*63.20*	*$52.80*
	Output the total_price	*12.40*	*41.00*	*9.80*	*63.20*	*$63.20*

2. Complete Program Calculate Bill Total

Now check the actual code produces the output you expected

Do this by completing the missing code in **bill_total.rb** in **Task 1.3** then running the program.

3. Short Answer Questions:

Focus in the following on using the correct computing terminology.

Here are some terms that may help you: Assignment, evaluate, increment,

1. Using a few sentences explain why it may be important to execute statements in the correct sequence. (eg: what might happen if the last statement in Program 2 was executed earlier)

If the last statement in Program 2 was executed earlier than expected, it could result in errors because the variable total_price hasn't been assigned a value yet.

2: The code main_price = 10 is an example of which kind of programming statement?

This is an assignment statement.

3: What actions does the computer perform when it executes `a = a + b`?

The computer first evaluates a + b, adding the current value of the variable a to the value of the variable b, resulting in a new value.
Then it assigns the new value to the variable a, which overwrites the previous value of a with the new value calculated in the previous step.

4: How would the value of variable i change in the statement i = i + 1?

The value of i will be increased by 1.

5: *What sort of types will Ruby use to store the following variables* (given the associated variable values)?

Data	Type
A person's name e.g: “Fred Smith”	String
Number of students in a class e.g: 23	Integer
Average age of a group of people e.g: 23.5	Float
A temperature in Celsius e.g: 45.7	Float
True or false e.g: 1 == 2	Boolean

Note: possible types include: Integer, String, Float, Boolean

6: *Variables have a scope – what are two different scopes variables can have in Ruby?*

In Ruby, variables can have two different scopes: global and local

- Local variables are only accessible in the block in which it was first used (or defined).
- Global variables are accessible to all blocks of code (i.e procedures).