

## Answers to Questions from TT1.2

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### 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
<i>appetizer_price</i>	10.30	12.40
<i>main_price</i>	34.00	41.00
<i>dessert_price</i>	8.50	9.80

Expected Result:

	First data set	Second data set
<i>Output:</i>	\$52.80	\$63.20

Desk check - fill this in by completing the missing code in **bill\_total.rb** (in the tasks Resources folder) then running it with the test data above:

	Statement	<i>appetizer _price</i>	<i>main _price</i>	<i>dessert _price</i>	<i>total _price</i>	<i>output</i>
<b>First Pass</b>	<i>Read the value of appetizer_price</i>	<i>10.30</i>				
	<i>Read the value of main_price</i>		<i>34.00</i>			
	<i>Read the value of dessert_price</i>			<i>8.50</i>		
	<i>Calculate the total_price</i>				<i>52.80</i>	
	<i>Convert to dollars</i>					<i>\$52.80</i>
	<i>Output the total_price</i>					<i>\$52.80</i>
<b>Second Pass</b>	<i>Read the value of appetizer_price</i>	<i>12.40</i>				
	<i>Read the value of main_price</i>		<i>41.00</i>			
	<i>Read the value of dessert_price</i>			<i>9.80</i>		
	<i>Calculate the total_price</i>				<i>63.20</i>	
	<i>Convert to dollars</i>					<i>\$63.20</i>
	<i>Output the total_price</i>					<i>\$63.20</i>

## 2. 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)
- Sequence, the order that commands are executed by a computer, allows us to carry out tasks that have multiple steps. ... Computers need instructions in the form of an algorithm to complete a desired task, and this algorithm must have the correct order of steps, or sequence.
  - If the last statement in Program 2 was executed earlier, the terminal will prompt an error message, as the needed inputs have not been inserted.

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

This is a declaration statement.

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

The computer first retrieves the value of a.  
Then it calculates the total of a and the value of b.

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

The value of i will be added 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	Integers
Average age of a group of people e.g: 23.5	Real numbers
A temperature in Celsius e.g: 45.7	Real numbers
True or false e.g: 1 == 2	Booleans

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

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

The 2 different variables are

- Local: a variable is only accessible in the block of code in which is declared
  - Global: a variable or constant is accessible everywhere in the program
- See the lesson materials for help with Question 6. You could also see:

[https://www.tutorialspoint.com/ruby/ruby\\_variables.htm](https://www.tutorialspoint.com/ruby/ruby_variables.htm)