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
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		*34.00*			
	Read the value of dessert_price			*8.50*		
	Calculate the total_price				*52.80*	
	Convert to dollars				*$52.80*	
	Output the total_price					*$52.80*
Second Pass	*Read the value of appetizer_price*	*12.40*				
	Read the value of main_price		*41.00*			
	Read the value of dessert_price			*9.80*		
	Calculate the total_price				*63.20*	
	Convert to dollars				*$63.20*	
	Output the total_price					*$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 sentences were executed in the wrong sequence, the order of reading and calculating the variables will also be in the wrong order, producing the incorrect output in the process.

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 sums a and b.
Then it stores that value in a.

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?*
Global and Local Variables.

See the lesson materials for help with Question 6. You could also see:

https://www.tutorialspoint.com/ruby/ruby_variables.htm