Answers to Questions from TT1.2

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1. Desk Check Task: Calculate Bill Total

Required Variables:

Integer: appetizer_price, main_price, dessert_price

Real (floating point): total_price

Pseudocode:

Read the value of appetizer_price *(in cents)*

Read the value of main_price *(in cents)*

Read the value of dessert_price *(in cents)*

total_price = appetizer_price + main_price + dessert_price

total_price = total_price / 100 #Comment: convert to dollars

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

Test Data:

	First data set	Second data set
appetizer_price	1030	1240
main_price	3400	4100
dessert_price	850	980

Expected Result:

	First data set	Second data set
Output:	$61.10	$63.20

Desk check:

	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*	
	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*	
	Output the total_price					*$63.20*

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)

It may be important to execute statements in the correct sequence because if we change the order of the statements, the results might be different and incorrect, and it may also raise errors if a variable is used before declaration. For example, in Program 2, if we print

the total price before the assignment statement, there will be an error because we try to use the total_price variable before declaring it.

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 the value of a and the value of b
Then it finds the sum of a and b
Finally, the result is assigned to the variable a

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

The value of i will be incremented 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?*

The two scopes are Global and Local.

Global variables can be accessed anywhere after being declared.

Local variables are declared inside functions, classes, or modules, etc. and can only be accessed inside their scope after being declared.