Chapter 4 Programming Project 11

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| Submission has proper format and name according to syllabus | OK |
| Includes program source files (.java) | OK |
| Include up front thinking on programming problem | OK |
| Class **Pizza** | OK |
| Instance variable that is **private** to indicate **size** | OK |
| Instance variables that are **private** of type **int** for number of toppings **cheese** , **pepperoni**, and **ham** | OK |
| No additional unnecessary instance variables | toppingsTotal, total -2 (See below) |
| Constructor(s) that set all the instance variables. Must have at least one that sets all. | See below. -1 |
| Public get methods for each of instance variables | No. This is in problem specs. -5 |
| Public set method(s) for instance variable. May have only one but must set all. | OK, done within setOrder method. |
| Public method called **calcCost( )** that returns a **double** that is the cost of the pizza. Each additional topping has a fixed cost of $2. Small $10 plus topping costs, Medium $12 plus, Large $14 plus | OK |
| Public method called **getDescription( )** that returns a **String** contain details of pizza and cost calculated by calcCost( ) method | OK |
| Test code to create several pizzas and output their descriptions | OK |
| Includes program test runs that adequately demonstrate the program working | OK |

An object-oriented programming principle is to minimize the number of instance variables. This is because we do not want our objects to become loaded with unnecessary storage needs. The extra variables that you declared could have been declared within a local method. There is no need to store values that can be easily calculated such as total.

A constructor has two major purposes. It is supposed to create the object in memory which involves use of the new operator for reference data types. The other is to initialize all instance variables. Do not depend on the default values of primitives to do this. You have a size variable that the default constructor would set at zero since you have no statements in that constructor. Later, you use 1, 2, and 3 for Pizza sizes. That could be problematic, if you do not handle size = 0 in other methods. Run your test code without the setOrder method. Free pizza!