

Specifications: TotalSystem

In addition to the obvious specifications illustrated in the UML class diagram and the specifications for the parent class and interface, the TotalSystem class must satisfy the following specifications.

1. public methods must not have any side effects. That is, they must not change the parameters that they are passed in any way (e.g., the List that is passed to the calculate() method must not be changed in any way) and they must not change attributes that are not “owned” (i.e., attributes that are aliases) in any way.
2. You may assume that the calculate() method is passed a List that does not contain any null elements.
3. If the value of a particular Score is missing (i.e., null) then a value of 0.0 must be used. Note: The Missing class has a method that can be used to accomplish this.
4. The calculate() method must calculate the total of the List of Score objects it is passed.
 - 4.1.If the List is null then it must throw a SizeException.
 - 4.2.If the List is empty then it must throw a SizeException.
 - 4.3.Otherwise, it must return a Score object with the given key and a value equal to the total of the Score objects in the List.