



# Specifications: CompositeScore

In addition to the obvious specifications illustrated in the UML class diagram, the CompositeScore class must satisfy the following specifications.

1. If a constructor is passed a key that is null or empty (i.e., "") then the constructor must throw an `IllegalArgumentException`.
2. The `add()` method add the given `Score` object to the `List` of `Score` objects.
3. The `getValue()` method must use the `Rule` and `ScoringSystem` parameters passed to the constructor to calculate the value to return.
  - 3.1. The `getValue()` method must first call the `apply()` method of the `Rule` object (if there is one).
    - 3.1.1. It must return `null` if the `apply()` method throws a `SizeException`.
  - 3.2. The `getValue()` method must then calculate the value to return using the "filtered" `List<Score>` (if there is a `Rule`) or the original `List<Score>` (if there is not).
    - 3.2.1. It must return `null` if there is no `ScoringSystem`.
    - 3.2.2. Otherwise, it must return `Double` associated with the result of calling the `calculate()` method of the `ScoringSystem` and passing it the appropriate `List<Score>`.
      - 3.2.2.1. It must return `null` if the `calculate()` method throws a `SizeException`.