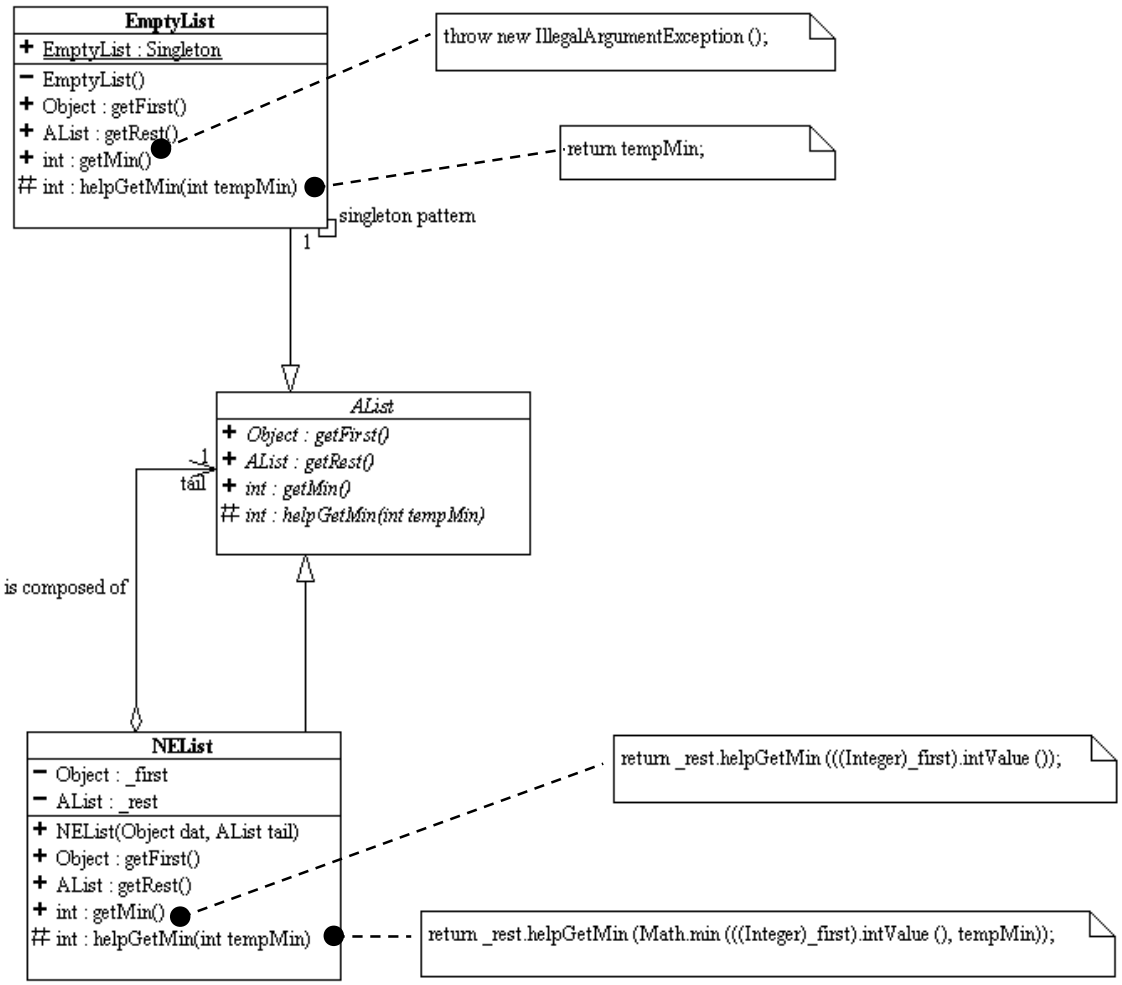
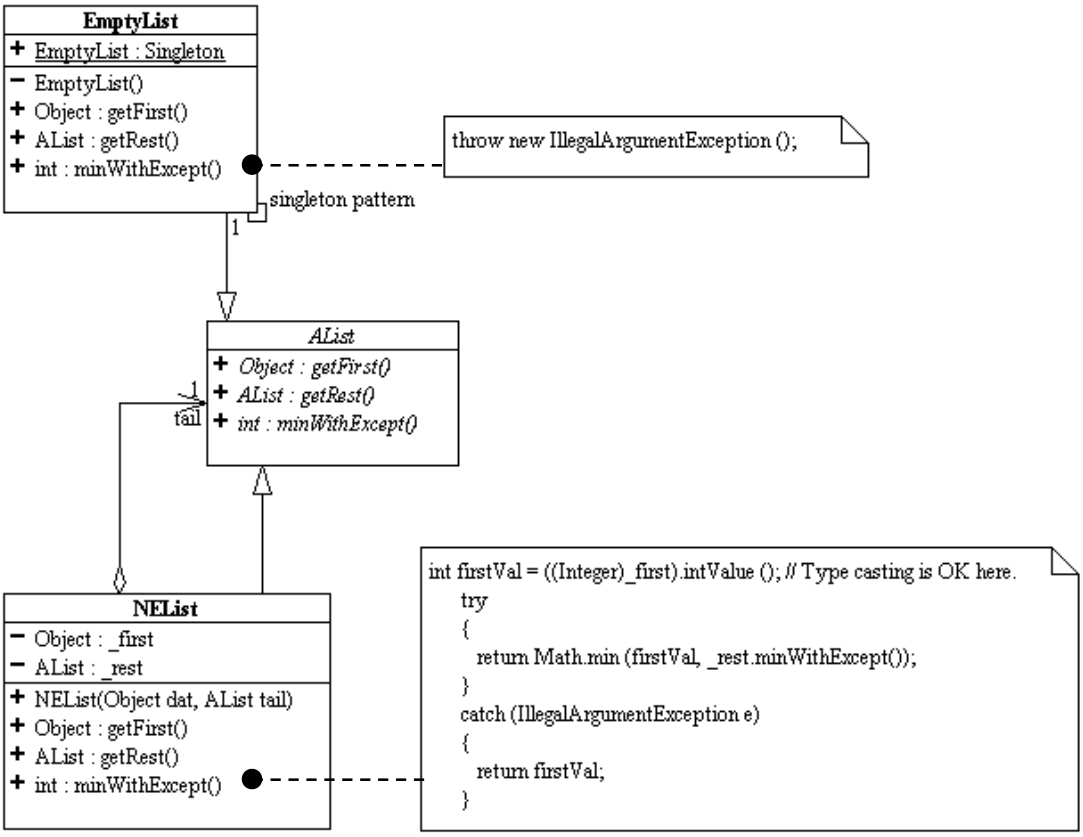
Comp 212 - Intermediate Programming IMMUTABLE LIST STRUCTURE
Rice University - Fall 2000
Dung X. Nguyen

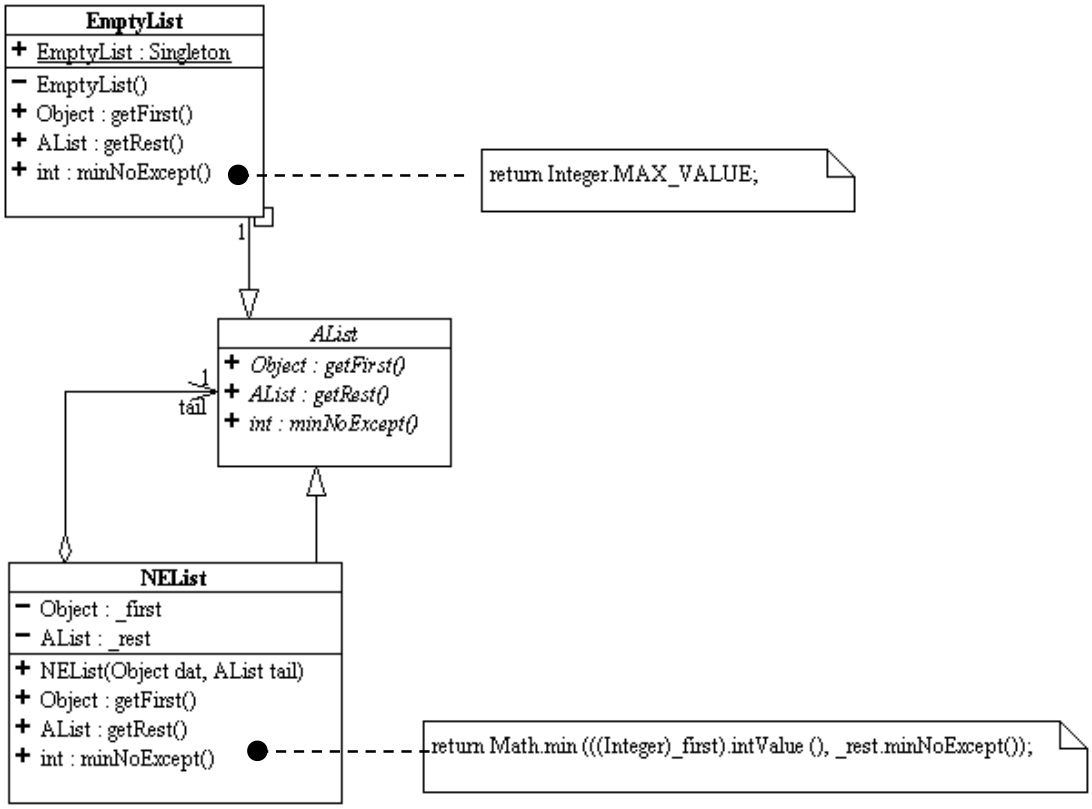
The list structure is one of the most fundamental data structures in computing. Here we implement the Scheme-like list structure using the composite design pattern. Figures 1, 2, 3 below illustrate the structural pattern and the coding patterns for a list algorithm implemented as a method of the list. Figure 1 illustrates the pattern using a "helper method". Figures 2, 3 illustrate the pattern using direct recursion without helpers.



1. Immutable List of Integer as a Composite Using Helper Method to compute minimum.



2. Computing the minimum without using helpers, throwing an exception when the list is empty.
Note the use of `try {} catch {}` in `NEList` to handle the exception thrown when `_rest` is empty.



2. Computing the minimum without using helpers and without throwing an exception when the list is empty.
When `_rest` is empty returns `Integer.MAX_VALUE` to model the fact that the infimum of the empty set is +infinity.