Programming in Modula-3

A priority queue maintains a list of pairs, each consisting of a priority (a natural number) and a name (a text string), sorted into increasing order of priority. Consider the implementation of such a queue as an object in Modula-3. This should have two methods — insert taking a pair as its arguments to be placed at the appropriate point in the list, and next taking no arguments but removing the first pair from the list and returning its text string component.

Give type definitions and default method implementations for this queue object. [20 marks]