Programming Exercises – Templates

1. Template last week's exercise, the linked-list based list data structure. Make sure it will work with any data type, including another list.

2. Create your own full-featured, templated, arbitrarily sized vector class. Try implementing some of the following members:

   Default constructor

   Parametrized constructor

   Copy constructor

   Destructor

   operator=

   operator+

   operator-

   operator+=

   operator-=

   length()

   normal() – same direction, length = 1

   round() – round to integer vector

   rotate()

   angle()

   operator==

   operator!=

   templated operator* -- multiply by constant

   operator * -- dot product