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