CS14 – Lab 1

Exercises:

1. (a) Write a recursive function that returns the number of 1's in the binary representation of the unsigned int N. Use the fact that this is equal to the number of 1's in the representation of N/2, plus 1 if N is odd.

   (b) Extend this function so that it works on any integer-like type (i.e. char, short, int, long) using templates.

2. (a) Write a stack class that has member functions push and pop. Use the STL's vector class within your stack class.

   (b) Extend your stack class, using templates, so that it can use any container type. In particular, it should be able to work with both STL's list and vector classes.