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## COM S 213 – Spring 2003

**ASSIGNMENT #7:            Templates & Exceptions**

**DATE GIVEN:                4/3/03**

**DATE DUE:                  4/10/03**

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### **PURPOSE:**

To apply what we've learned about Exceptions and Templates.

### **ASSIGNMENT:**

Today we learned that template arguments can be used with classes in one of two ways

- To allow a data type used in a class to be specified at declaration time
- To allow a “constant” used in a class to be specified at declaration time.

For this assignment you will need to create an array class similar to the “MyArray” class I used in lecture. The array class will need to have a constructor, destructor and an overloaded array index operator.

This class will be a *template* class which takes two template arguments. One will be the data type to stored in the array, the second will be the size of the array (use a static declaration of an array of the specified type as your internal data store inside the class). You overloaded array index operator should do bounds checking on all indices. Create an ArrayIndexException class to throw if an out of bounds condition occurs

You should also overload operator<< for this class to print out the entire array (you do not need to overload operator>>)

You should demonstrate input and output to the array as well as the exception condition being handled.