**HW6 (template classes, STL)**

**Part I. (5 pts)** Define a template class Trio<T>, which has member variables: first, second, and third of type T, member functions: constructor with three parameters, get\_element(int position), set\_element(int position, T value).

Create objects of this class: xyz\_coordinates, name\_initials, full\_name, car (make, model, and license plate), top\_students, and winners. For first four objects choose appropriate existing parameter types T, for last two objects define classes Student and Winner (with appropriate member variables and functions) to be used as parameter type of Trio<T>.

Modify each object (using set\_element) and output first, second, and third of each object (using get\_element).

**Submission.** Submit code templateTester.cpp and output templateTester.pdf.

**Part II. (5 pts)** Use STL classes to create 5 different containers (e.g. list, stack, queue, map) of various types (e.g. integers, floats, characters, strings, the classes defined in previous homework assignments), and test few methods of each container.

**References.** Check lect6\_templates, lect7\_STL, and online sources: <http://www.sgi.com/tech/stl/table_of_contents.html>

<http://www.cplusplus.com/reference/stl/>

**Submission.** Submit code STLtester.cpp and output STLtester.pdf.