ETEC2101 Lab3: **ArrayList completed!** Points: **100** (120 possible)

1. Get a working copy of Lab2 and add to it the following features.
2. (**20 points**) Using the “building_dependencies_and_integrating” document to build GoogleTest from source and integrate (with our lab2 project) the GoogleTest dependency.
3. Additions to ArrayList:
    a. (**40 points**) ArrayListIterator
    b. (**7 points**) begin and end methods (and rbegin and rend)
    c. (**6 points**) move constructor
    d. (**7 points**) std::initializer_list constructor
4. (**40 points**) Use our new GoogleTest dependency to write good unit tests which thoroughly test our lab1 – lab3 functionality.
    a. Put these new tests in array_list_tests.cpp and wrap them all with a conditional-compile macro (#define EXECUTE_ARRAY_LIST_TESTS 1) such that if that macro is not true, no tests will be compiled. In this case, your main program will be trivial:

    ```
    #include <gtest/gtest.h>
    int main()
    {
          testing::InitGoogleTest();
          return RUN_ALL_TESTS();
    }
    ```

    b. https://google.github.io/googletest/primer.html is a good reference / overview. You can choose to use a set of test functions (using TEST) or a Test Fixture class [your choice] or even a mixture of the two.
    c. Make sure to test all "fringe", "error" and "happy path" cases
    d. Note: it might be easier to do some informal testing (perhaps in main) to make sure your basic structure for the new items (iterators, etc.) are working