

SE 461 – Spring 2021

Assignment #1 – The Array Class

Due: 2/11/2021

This first assignment will serve as a refresher for the C++ programming language and tap into your knowledge of abstract data types (ADT). This project will serve as the foundation for exploring the many benefits that the C++ can provide and will help you familiarize yourself with using a code repository, GitHub. For this programming assignment, you will design and implement a standard array class for characters, *i.e.*, char types.

You will not be completing a full design and implementation, instead I will provide a skeleton of an array class and it is your job to implement the design given the provided source code. You will be responsible for completing the correct functionality for each method. The requirements for each method that you are responsible for are specified in the array's header file (*i.e.*, **Array.h**). I will place the source files out on Canvas – it is your responsibility to download these files and modify accordingly (including the addition of comments to new code).

NOTE: Use of any Standard Template Library (STL) or Standard C Library routines to implement the Array class is not permitted – using such libraries will result in a 0.

Development Process:

For this assignment, all development must take place on the master branch. It is strongly recommended that you commit and push often! This will help to familiarize you with the workings of a source code repository and its importance in software design and development.

Submission:

All assignments must be submitted on Butler GitHub (github.butler.edu). The name of your Butler GitHub repository must be as follows: **se461_spring2021_array**

I will provide in the lecture slides the necessary setup details regarding your repository and tools (MPC and Valgrind). Please make sure that you use this guide to accomplish this task.

The directory structure of the repository must contain the following files:

- **Array.h**
- **Array.inl**
- **Array.cpp**
- **Array.mpc**
- **Valgrind.txt**

Each source file (.cpp/.h/.inl) must include the Honor Pledge and virtual signature – more details about this can be found in the lecture slides.

Any additional files and directories can be added to the GitHub repository – for instance you will need a driver.cpp file in order to test your Array implementation, but they will not be reviewed or graded. Make sure the filenames have the correct capitalization. Failure to do so can result in our automated system not compiling and testing your code. You don't want to receive a 0 on the assignment for an incorrect filename!