BTN415 Lab 1

C++ Refresher Lab

In this lab, you will refresh your basic C++ development skills by implementing, compiling and running some basic objects

# LEARNING OUTCOMES

Upon successful completion of this lab, you will have demonstrated the ability to:

* Implement, compile and execute an Object Oriented C++ application
* Define a class with member functions and variables
* Define a structure
* Work with multiple source files
* Work with dynamic memory management

# SPECIFICATIONS

This lab will consist of one source files and one header file:

* Source.cpp (provided)
* Object.h (starting point provided)

## Object Class (Object.h)

Update the header file **Object.h** to implement (inline) a class named ***Object***. Include in your class definition:

* A pointer to a **buffer** of integers
* A structure that contains the following **state information** about the object
  + Size of the buffer
  + Index to the next available buffer slot
  + Pointer to a std::ofstream
* A constructor ***Object(int, std::ofstream\*)*** that takes in the size of your buffer of integers and a pointer to the std::ofstream defined in the main. Your constructor should:
  + Dynamically allocates the **buffer**
  + Initializes the **state information** (size of buffer, index to the next available buffer slot)
  + Stores the std::ofstream pointer
* A destructor ***~Object()*** that deallocates the **buffer**
* A ***void Display() const*** member function that prints the contents of the buffer to the screen and the std::ofstream
* An ***Object& operator+=(int)*** overloaded operator that adds integer values to the **buffer** and updates the **state information** (only the index to the next available buffer slot, as the size doesn’t change)

# SUBMISSION REQUIREMENTS

Once you have completed your lab create and upload the following files:

* Create a single ZIP file that contains all your source code files (\*.h and \*.cpp)
* The output.txt file generated by the lab
* Any additional information you feel necessary for me to mark your lab