# 6G5Z0024

**Assessed Exercise 1**

**This assessed exercise has 3 assessed tasks: Task A, Task B and Task C**

**Task A**

Create an application to store a *stack* of integers. The app should store up to 10 integers, it should allow new integer to be added to the stack, integer to be removed and displayed and the number of entries in the stack to be seen. The application can be a GUI or menu driven interface. Do not use the built-in stack from C# but implements the one following the slides of the lecture

*Hints: Use Push and Pop to add and remove from the stack.*

*Some example code can be found in the lab notes from week 2, use these to help you implement your stack class, which can used in conjunction with an interface to allow user input with this structure.*

**Task B**

Extend the application of Task A by adding the possibility to sort the integers in the stack.

For instance, if the stack is:

3, 5, 1, 32, 53, 33, 9

then after applying the “sorting” the stack becomes

1, 3, 5, 9, 32, 33, 53

*Hints: You need to sort the integers in array: search for “C# array sorting” using google or similar*

**Task C**

Create an application to manage a LinkedList of books. The application (with a GUI) should be capable of adding a book, removing a book, displaying the list of books, and sorting the list of books by ISBN. Do not use the built-in linkedlist from C# but implements the LinkedList and the required methods following the lab exercises.

*Hints: You can create a Book class that stores the Title, the Author and the ISBN of the book (the ISBN is a string). Use the generic LinkedList (seen in lecture /lab in week 3) to define a LinkedList of books. Display can be via a single textbox but you may also consider to use listbox or similar.*