# ITC 111

# Lab 6 Instructions Sheet/Grading Rubric

# Spring 2020

# Blodgett

# Submission to the Lab 6 Dropbox

A URL with your code

# Due Date

June 6th

## Goal:

### Write a program that uses Event-Handlers and their respective Buttons to:

1. Enter positive integers into an Array
2. Allow the user to sort the array by choice of sorting algorithm
3. Allow the user to search the sorted array by choice of Recursive or Iterative Binary Search Algorithm

### Use CSS of your choice for styling

* Internal
* or Inline
* Or both

### Input Event Handler

* Use a Loop to prompt the user for numeric values to enter into an Input Array

### Sort Event Handler

* Encapsulate the below within a Loop until the user picks a sorting algorithm that you have implemented:
  + Let the user pick from one of 2 sorting algorithms from Lab6LectureNotes.html
    - (I decided on Bubble Sort and MergeSort for elaboration)
* Have either an If Else If Statement that applies the algorithm they have selected to the Input Array
  + Still implement an Else Branch even though you could argue it might not be needed
* Show the results of the sort to the user through the Demo1 Paragraph

### Search Event Handler

* Encapsulate the following in a loop
  + Let the user input a numeric value to search for
  + Use the function isNaN() to ensure the input is a number
  + Loop until they input a number
* Encapsulate the following in a loop
  + Let the user pick from either the Recursive or Iterative Binary Search
  + Loop until they have selected either the Recursive or Iterative Binary Search
* Have a Switch Statement that applies the Binary Search algorithm selected applied to the Input Array
  + Still implement a Default Branch even though you could argue it might not be needed
* Show the results to the user through the Demo2 Paragraph
  + Result message is the following If the value was NOT found:
    - text specifying the value was not found
    - along with the value searched for
  + Result message is the following If the value was NOT found:
    - text specifying the value was found
    - along with the value searched for
    - and the index it was found at

### Other specifications

* Do your work in the file provided in the Shell titled Lab6Startup.html
  + It includes the essay questions and a bare skeletal structure
  + If you don’t end up using Internal Style for the CSS, then take it out
* The Input Array is a Global Array
* Any text user input should be converted to either
  + Lower Case
  + Or Upper Case
* All Sorts and Searches should be in separate functions called by their respective Event Handlers
* Enabling/Disabling of Buttons
  + At program startup
    - Only the Input Button is enabled
  + At the bottom of the Array Input EH
    - Enable the Sorting Button
    - Disable the Searching Button
  + At the bottom of the Array Sort EH
    - Enable the Search Button
* Note, the user can always run the Input Event Handler
  + Would be done if the user wants to reset the values of the array
* Make sure all variables, text for Buttons etc… are named appropriate for the problem domain you are programming against
  + i.e. Is your Array about computers sold per month?
    - Then name variables, specify text for Buttons etc... to reflect that domain
  + For the id(s) for the respective paragraphs mentioned up above, you should name them also to reflect for the problem domain you are working against
    - i.e. Don’t leave then with id(s) of demo and demo2

### Grading Rubric

|  |  |
| --- | --- |
| Item | Points |
| Program code (e.g. Does it work according to its purpose? e.g. Does it follow all requirements specified above? etc....) | 80% |
| Essays (Are all essay questions and their answers submitted, and in the proper order? Is each answer more than a few sentences (i.e. a paragraph)? Any poor grammar, spelling mistakes? | 20% |