

Functional Requirements

Your job is to produce a program that sorts a list of numbers in ascending order. Your program will need to read-in, from a file, a list of integers – at which point you should allow the user an option to choose to sort the numbers in ascending order via one of the two sorting algorithms (insertion and bubble sort). As output, you will display the sorted list back to the user.

Your program will be menu driven in which you will provide the following prompts to the user:

1. Load Integers (From File)
2. Exit Program

Once the user has loaded the list of integers the following options should be provided:

1. Insertion Sort
2. Bubble Sort
3. Exit Program

The file will contain **fifty integers** (50) and they will be comma separated on a single line.

Below is the output of what your program should display when executed:

```
1. Load Data (From File)
2. Exit Program
Please enter your selection: 1
Unsorted Array: 39, 14, 100, 16, 93, 24, 62, 68, 52, 76, 86, 48, 15, 41, 83, 55, 18, 30, 74, 7, 31,
44, 67, 81,
70, 27, 53, 59, 61, 19, 56, 35, 88, 58, 72, 98, 38, 64, 94, 69, 50, 46, 78, 6, 57, 89, 26, 20, 79,
49
1. Insertion Sort
2. Bubble Sort
3. Exit Program
Please enter your selection: 1
Insertion Sort: 6, 7, 14, 15, 16, 18, 19, 20, 24, 26, 27, 30, 31, 35, 38, 39, 41, 44, 46, 48, 49,
50, 52, 53,
55, 56, 57, 58, 59, 61, 62, 64, 67, 68, 69, 70, 72, 74, 76, 78, 79, 81, 83, 86, 88, 89, 93, 94, 98,
100
1. Load Data (From File)
2. Exit Program
Please enter your selection: 1
Unsorted Array: 39, 14, 100, 16, 93, 24, 62, 68, 52, 76, 86, 48, 15, 41, 83, 55, 18, 30, 74, 7, 31,
44, 67, 81,
70, 27, 53, 59, 61, 19, 56, 35, 88, 58, 72, 98, 38, 64, 94, 69, 50, 46, 78, 6, 57, 89, 26, 20, 79,
49
1. Insertion Sort
2. Bubble Sort
3. Exit Program
Please enter your selection: 2
Bubble Sort: 6, 7, 14, 15, 16, 18, 19, 20, 24, 26, 27, 30, 31, 35, 38, 39, 41, 44, 46, 48, 49, 50,
52, 53, 55,
56, 57, 58, 59, 61, 62, 64, 67, 68, 69, 70, 72, 74, 76, 78, 79, 81, 83, 86, 88, 89, 93, 94, 98, 100
1. Load Data (From File)
2. Exit Program
Please enter your selection: 2
Goodbye!
```