

COMP500 / ENSE501: Week 11 – Exercise:

EXERCISE NAME: *Save and Sort*

Given the following source code:

```
1  #define _CRT_SECURE_NO_WARNINGS
2  #include <stdio.h>
3  #include <stdlib.h>
4
5  int compare(const void* a, const void* b);
```

Write a program that asks the user to input five integers. The program must use an array to store these values.

After the user inputs all the values, the program must print out the contents of each array element in the style shown below and then save the array to a text file named **unsorted.txt** in the same output style.

Next, the program must sort the array using the **qsort** function from **stdlib.h**, from lowest to highest. A function declaration for the compare function has been provided.

Finally, the program must print out the sorted array in the style shown below, and save the array to disk in a file named **sorted.txt**.

An example of the program's output is as follows:

```
Please enter five integers:

Input 1: 47
Input 2: 30
Input 3: 12
Input 4: 3
Input 5: 70

Array input was: { 47, 30, 12, 3, 70 }

Unsorted array has been saved to the 'unsorted.txt' file.

Sorted is: { 3, 12, 30, 47, 70 }
```

After executing this example, the following output would be in the **unsorted.txt** file:

```
1 { 47, 30, 12, 3, 70 }
```

After executing this example, the following output would be in the `sorted.txt` file:

```
1 { 3, 12, 30, 47, 70 }
```

Ensure your source code compiles and follows good programming standards. Ensure your program is well tested.