Lab 6

(Submission Date: April 22nd , 11:59 pm)

Lab Description:

1. Required file names: lab6main.c, min.c, max.c, sum.c, sort.c and Makefile. You do not have to create a .h file.
2. You will be given a C programming language lab6main.c file that has 4 bugs in it. IT DOES NOT WORK CORRECTLY. First of all, you need to fix the bugs.
3. The main() program accepts an indeterminate number of parameters from the command line. The minimum number of values is 1. These values should all be interpreted as signed integers.
4. main() determines how many integers are on the command line and then creates an appropriate sized dynamic array to hold them.
5. main() passes the address to the array and a count to each of four assembler functions.
6. There are four functions that must be written in four C files.

• The min() program must determine the minimum value in the array and then print out the line "The minimum value is ____." The minimum value must be returned to main().
• The max() program must determine the maximum value in the array and then print out the line "The maximum value is ____." The maximum value must be returned to main().
• The sum() program sums the values in the array and then print out the line "The sum of values is ____." The sum must be returned to main().
• The sort() program sorts the array values in to ascending order changing their position in the array so that the sorted order is retained. The sort() program must print out each individual integer value on a separate line in sorted order. You can write your own sort/you can use a library function as well.

7. An example of the program output is:

```
lab6 14 15 81 90 100 -11 -1000 3000 20
The minimum value is -1000.
The maximum value is 3000.
The sum of the values is 2309.
The input received has a span of 4000 units.
The average value is 256
The values in ascending order are:
-1000
-11
14
15
20
81
90
100
3000
```

8. You need to write a Makefile (An example Makefile is provided. Also, consult the lecture) as well.
9. If you find any redundancy, you can remove that too. If you want to add extra files/codes, you can add that too.

Lab Submission:

1. You need to submit a zipped file named as lab6.zip. That file should contain all of your C files and a Makefile.

Grading Rubric:

Following Instructions	5 points
Fixed the buggy main file	5 points
Four functions	20 points
Write the Makefile	10 points
Correct output	5 points

Helpful Link:

[1] https://www.gnu.org/software/make/manual/make.html