

# Computing Homework 22/10/13 Part 2:

## Avg, Max & Min Calculator

### Objective

Write a program in C that will take in  $n$  numbers and calculate the average, maximum and minimum numbers that were input.

### How to do it

I will calculate the numbers like this:

- Average
  - To calculate this, every time a new number is input, I add it to the previous number, then the next time a number is input, I add it to that. Then after all  $n$  numbers are input, I will divide the total by  $n$ .
- Maximum
  - To calculate this, every time a new number is input, I will see if it is bigger than the previous biggest number. Then, if it is, the biggest number variable will be set to the number that was just input.
- Minimum
  - To calculate this, every time a new number is input, I will see if it is smaller than the previous smallest number. Then, if it is, the smallest number variable will be set to the number that was just input.

Then, I will print them out.

### How to test it

I will test this program 5 times, with these sets of numbers:

Set 1 (Ascending numbers)	Set 2 (Fibonacci numbers)	Set 3 (Square numbers)	Set 4 (Triangle numbers)	Set 5 (Random numbers)
1	1	10	1	1
2	1	4	21	10
3	2	9	28	2
4	3	25	36	11
5	5	16	45	3
6	8	36	3	12
7	13	49	10	4
8	21	64	6	13
9	34	81	15	5
10	55	1	55	14

And the outputs for these sets of numbers will be:

	Set 1	Set 2	Set 3	Set 4	Set 5
Average	5.5	14.3	29.5	22	7.5
Maximum	10	55	81	55	14
Minimum	1	1	1	1	1

If the program outputs these results, I will conclude that I have completed the objective.

## Test results

After testing my program, I got these results:

```
Gavins-iMac-5:ComputingHomework13:10:22 samuel$ ./avg_max_min_calc.out
Welcome to the Avg, Max & Min calculator v1.0!
How many numbers will you be inputting?
No. of numbers:10
Thank you. Please input the numbers.
Number 1:1
Number 2:2
Number 3:3
Number 4:4
Number 5:5
Number 6:6
Number 7:7
Number 8:8
Number 9:9
Number 10:10
Average:5.5
Maximum number:10
Minimum Number:1
How many numbers will you be inputting?
No. of numbers:10
Thank you. Please input the numbers.
Number 1:1
Number 2:1
Number 3:2
Number 4:3
Number 5:5
Number 6:8
Number 7:13
Number 8:21
Number 9:34
Number 10:55
Average:14.3
Maximum number:55
Minimum Number:1
How many numbers will you be inputting?
No. of numbers:10
Thank you. Please input the numbers.
Number 1:10
Number 2:4
Number 3:9
Number 4:25
Number 5:16
Number 6:36
Number 7:49
```

Number 8:64  
Number 9:81  
Number 10:1  
Average:29.5  
Maximum number:81  
Minimum Number:1  
How many numbers will you be inputting?  
No. of numbers:10  
Thank you. Please input the numbers.  
Number 1:1  
Number 2:21  
Number 3:28  
Number 4:36  
Number 5:45  
Number 6:3  
Number 7:10  
Number 8:6  
Number 9:15  
Number 10:55  
Average:22.0  
Maximum number:55  
Minimum Number:1  
How many numbers will you be inputting?  
No. of numbers:10  
Thank you. Please input the numbers.  
Number 1:1  
Number 2:10  
Number 3:2  
Number 4:11  
Number 5:3  
Number 6:12  
Number 7:4  
Number 8:13  
Number 9:5  
Number 10:14  
Average:7.5  
Maximum number:14  
Minimum Number:1

As you can see, it is the same as the required results.  
I can therefore conclude that I have completed the objective.