

Part IV Project description

Write a multithreaded program that calculates various statistical values for a list of numbers:

- Average
- Minimum
- Maximum
- Median
- Standard deviation

This program will be passed a series of numbers on the command line and will then create three separate worker threads first. One thread will determine the average of the numbers, the second will determine the maximum value, and the third will determine the minimum value. For example, suppose your program is passed the integers

```
90 81 78 95 79 72 85
```

The program will report

```
The average value is 82
The minimum value is 72
The maximum value is 95
```

The variables representing the average, minimum, and maximum values will be stored globally. The worker threads will set these values, and the parent thread will output the values once the workers have exited.

After that, add two more global variables and two more threads that will determine the median and the standard deviation, respectively.