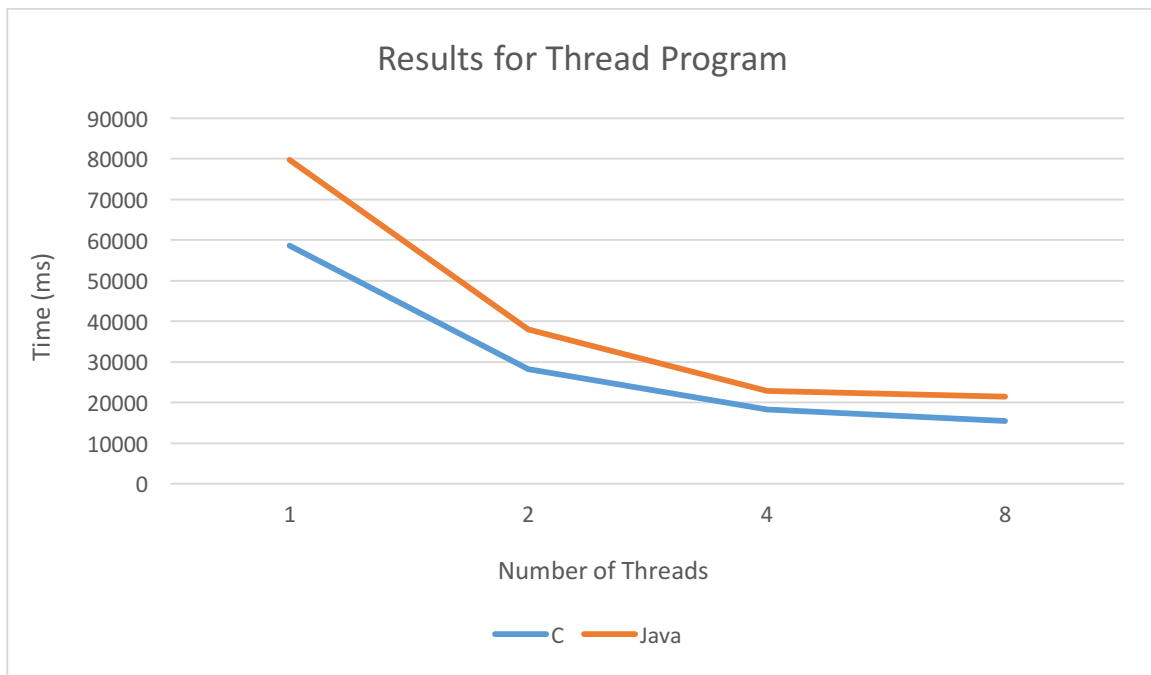Results for Project 3 – Threads
Forrest Meade

In the results, we see that by adding threads make it less time to complete the calculation. We also see that C is slightly faster, probably because of less memory being used.

Graph:

Results for Thread Program

Results in C:

```
Sum: 98225301.871252              Sum: 98225301.731176
Wall Time: 58518 milliseconds     Wall Time: 18996 milliseconds
Number of Threads: 1              Number of Threads: 4
Upper Limit of Sum: 2000000000    Upper Limit of Sum: 2000000000
Sum: 98225301.871252              Sum: 98225301.731176
Wall Time: 58520 milliseconds     Wall Time: 18259 milliseconds
Number of Threads: 1              Number of Threads: 4
Upper Limit of Sum: 2000000000    Upper Limit of Sum: 2000000000
Sum: 98225301.871252              Sum: 98225301.731176
Wall Time: 59137 milliseconds     Wall Time: 17720 milliseconds
Number of Threads: 1              Number of Threads: 4
Upper Limit of Sum: 2000000000    Upper Limit of Sum: 2000000000
Sum: 98225301.871252              Sum: 98225301.544402
Wall Time: 28397 milliseconds     Wall Time: 15545 milliseconds
Number of Threads: 2              Number of Threads: 8
Upper Limit of Sum: 2000000000    Upper Limit of Sum: 2000000000
Sum: 98225301.871252              Sum: 98225301.544402
Wall Time: 28163 milliseconds     Wall Time: 15465 milliseconds
Number of Threads: 2              Number of Threads: 8
Upper Limit of Sum: 2000000000    Upper Limit of Sum: 2000000000
Sum: 98225301.871252              Sum: 98225301.544402
Wall Time: 28280 milliseconds     Wall Time: 15505 milliseconds
Number of Threads: 2              Number of Threads: 8
Upper Limit of Sum: 2000000000    Upper Limit of Sum: 2000000000
```

Results in Java:

```
Sum: 98225301.871252                    Sum: 98225301.731176
Wall Time: 82047 milliseconds           Wall Time: 22098 milliseconds
Number of Threads: 1                    Number of Threads: 4
Upper Limit of Sum: 2000000000          Upper Limit of Sum: 2000000000
Available Processors: 4                 Available Processors: 4
Sum: 98225301.871252                    Sum: 98225301.731176
Wall Time: 78257 milliseconds           Wall Time: 24300 milliseconds
Number of Threads: 1                    Number of Threads: 4
Upper Limit of Sum: 2000000000          Upper Limit of Sum: 2000000000
Available Processors: 4                 Available Processors: 4
Sum: 98225301.871252                    Sum: 98225301.731176
Wall Time: 78970 milliseconds           Wall Time: 22249 milliseconds
Number of Threads: 1                    Number of Threads: 4
Upper Limit of Sum: 2000000000          Upper Limit of Sum: 2000000000
Available Processors: 4                 Available Processors: 4
Sum: 98225301.871252                    Sum: 98225301.544402
Wall Time: 37506 milliseconds           Wall Time: 21596 milliseconds
Number of Threads: 2                    Number of Threads: 8
Upper Limit of Sum: 2000000000          Upper Limit of Sum: 2000000000
Available Processors: 4                 Available Processors: 4
Sum: 98225301.871252                    Sum: 98225301.544402
Wall Time: 37624 milliseconds           Wall Time: 21481 milliseconds
Number of Threads: 2                    Number of Threads: 8
Upper Limit of Sum: 2000000000          Upper Limit of Sum: 2000000000
Available Processors: 4                 Available Processors: 4
Sum: 98225301.871252                    Sum: 98225301.544402
Wall Time: 38755 milliseconds           Wall Time: 21202 milliseconds
Number of Threads: 2                    Number of Threads: 8
Upper Limit of Sum: 2000000000          Upper Limit of Sum: 2000000000
Available Processors: 4                 Available Processors: 4
```