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The number of threads for the multithreaded function is chosen with the formula:

$$threads = matrix\ size^2 / 2 .$$

10 is the maximum number of threads used.

The work is divided among the threads by giving each thread a slice of the matrix. Each slice contains a number of indexes in the matrix equal to the total number of indexes in the matrix divided by the number of threads.

Single Thread	Multi Threaded
.005	.007
.018	.018
4.9	4.25

Real time in seconds

The results were close to my expectations. For very small matrices the creation of threads actually caused a performance decrease due to the extra memory allocation but at larger matrix sizes lower number of loop iterations slightly increased the performance.