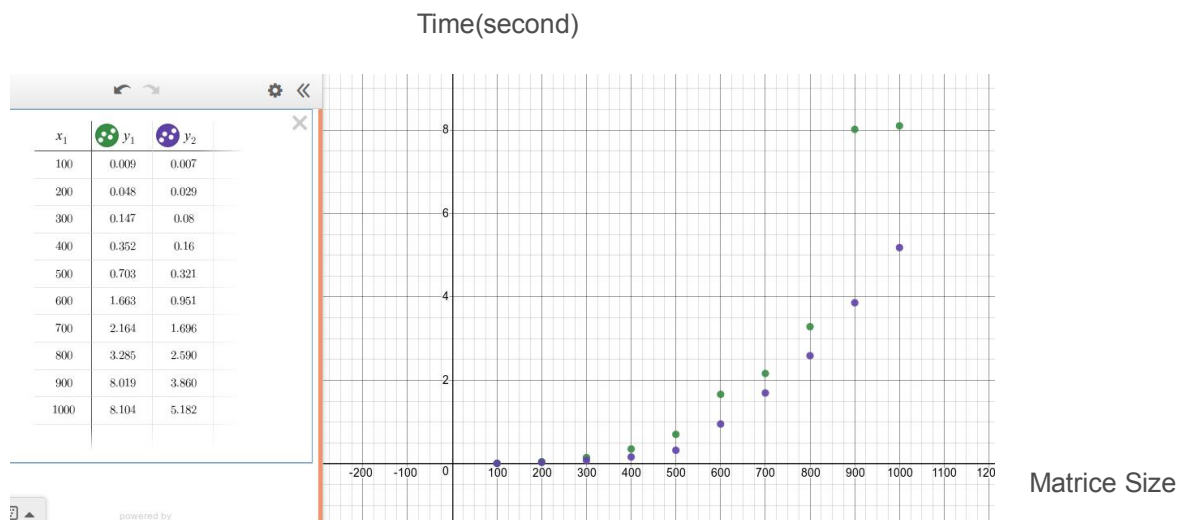# Analysis on Single Thread Matrices Multiplication

and Multi-Thread Matrices Multiplication

using pthreads in C

During this analysis multiple sizes of matrices were multiplied using both Single and Multi threading with pthreads in C . For the pthread multi- threading matrices multiplication threads equal to first matrices row count were created and in each thread first multiplying matrices row and all the columns of second multiplying matrice were given .So those threads calculate rows of solution matrices(rows of matrices which is the result of multiplication of first and 2nd matrices)

Matrices multiplication execution time of matrices sizes range from 100 to 1000 measured and they ware plotted in below.

Time(second)

x_1	y_1	y_2
100	0.009	0.007
200	0.048	0.029
300	0.147	0.08
400	0.352	0.16
500	0.703	0.321
600	1.663	0.951
700	2.164	1.696
800	3.285	2.590
900	8.019	3.860
1000	8.104	5.182

Matrice Size

Y1- Single Thread
Y2- Multi Thread

As seen in above graph multi threading execution time reduce when size of Matrices are increasing compare to single tread matrices multiplication.

Therefor Multi Threaded matrices multiplication is better where large matrices involved in.