

Assignment 1
Report for Matrix-Matrix Multiplication

Rollno: 123079015

System Specs are listed in the file "Syspecs.txt"

GCC version used: 4.4.3

OS: Ubuntu 10.04

MPI version: mpicc for MPICH2 version 1.2.1p1

Code Timings to report

Serial Code

N	Time (in seconds)	
	Without -O2	With -O2
10	0.000021	0.000005
100	0.0188221667	0.002335
500	3.7904622	1.7186528
1000	34.2627895	16.1353682

Openmp code

N	Time (in seconds)			
	Number of threads			
	2	4	8	16
10	0.000093 -O2 0.000082	0.000155 -O2 0.0001436	0.000265 -O2 0.0002538	0.000468 -O2 0.0004412
100	0.0120912 -O2 0.0014418	0.0124146 -O2 0.0015166	0.0125012 -O2 0.001573	0.0127806 -O2 0.0018058
500	2.205883 -O2 0.756453	2.194004 -O2 0.753592	2.1796908 -O2 0.7485184	2.1761024 -O2 0.744258
1000	19.772862333 -O2 8.108109667	19.750771667 -O2 8.103113	19.80844 -O2 8.116761	19.76928 -O2 8.128369

MPI code

N	Time (in seconds)			
	Number of processes			
	2	4	8	16
10	0.000360	0.000484	0.001083	0.004105
100	0.006175	0.012086	0.003091	0.004327
500	1.514802	1.122361	1.014194	1.212892
1000	12.383727	10.503842	10.272212	9.566612