

ELE709 - Real-Time Computer Control Systems

Lab 3 - POSIX Threads and Concurrent Programming (Week 2)

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Timing information should be obtained by running the required programs for the Exercises on a workstation in ENG413

1. Exercise 3.4

(a) Repeat Exercises 3.2 and 3.3 with the load program running concurrently. Record the results in Table A.2 below.

(b) Are the timing results similar to those obtained when the load program *wasn't* running concurrently? Explain why (or why not).

With load the results observed for 3.2 and 3.3 took a longer amount of time across the different operations. This is likely since the load program is using the same cores & threads as what is utilized in 3.2 and 3.3. i.e., the programs are trying to utilize the same cores to operate more programs.

2. **Exercise 3.5** Demonstrate your concurrent matrix multiplication program to the TA.

Ex 3.2 W/LOAD					Ex 3.3 W/LOAD				
	+	-	X	/		+	-	X	/
1	8.22E+08	1.61E+09	1.33E+09	2.77E+09	1	8.21E+08	2.14E+09	1.33E+09	1.95E+09
2	8.22E+08	1.61E+09	1.33E+09	2.77E+09	2	8.21E+08	2.14E+09	1.33E+09	1.95E+09
3	8.22E+08	1.61E+09	1.33E+09	2.77E+09	3	8.22E+08	2.14E+09	1.33E+09	1.95E+09