# Introduction to Parallel Computation

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## Exercise 3: Shared Memory Programming

Implement a microtasking programs for the "All Pairs Shortest Paths" problem on the Sequent Symmetry (`melmac.risc.uni-linz.ac.at`):

1. You can find a C program for this problem on our web server[1]. Use this source code as the basis of your work.
2. Implement two parallel versions of this program using a row- *and* a column-oriented distribution of the result matrix among the processors.
3. Run the parallel programs with an appropriate value for $N$ and 1, 2, 4, 8 and 16 processors.
4. Time the programs with the function `getusclk()` and compare the results with the run time of the sequential program.

The result of this exercise is a small paper that contains the sources of your programs, the program timings, the speedup curves, your experience and conclusions.

*Any sufficiently advanced bug is indistinguishable from a feature.*
*– Rich Kulawiec*

[1] http://www.risc.uni-linz.ac.at:81/courses/ws96/intropar/path/path.c

*Wombat's Laws of Computer Selection:*
*(1) If it doesn't run Unix, forget it.*
*(2) Any computer design over 10 years old is obsolete.*
*(3) Anything made by IBM is junk. (See number 2)*
*(4) The minimum acceptable CPU power for a single user is a VAX/780 with a floating point accelerator.*
*(5) Any computer with a mouse is worthless.*
*– Rich Kulawiec*