# Jacobi and Gauss Seidel Lab

For this lab please use the **cms-grid-8g and cms-grid-8g-2** Machines not **cms-grid-login**. These are 8 Core machines that you can also use for timings in your courswork. To split up the load a bit those with surnames beginning with A-M please use **cms-grid-8g** and the rest **cms-grid-8g-2**.

1. Familiarise yourself with the “jacobi1d_serial.c” and “jacobi1d_omp.c” codes
2. Run timing tests for 2, 4 and 8 threads on the cms_grid07 machine for the openMP code, don’t forget to comment out the print loop before timing!
3. Use the “gauss1d_serial.c” and “jacobi1d_omp.c” codes for reference to make a parallel Gauss Seidel solver
4. Run timing tests on this code.
5. How is the performance affected for both the Jacobi and Gauss Seidel codes effected when you initialise the temperature array to different values? (Try initial values of 0, 50 and 100)
6. What happens if you swap the boundary conditions over so 100 is on the left and 0 on the right?