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/*****
* FILE: omp_hello.c
* DESCRIPTION:
*   OpenMP Example - Hello World - C/C++ Version
*   In this simple example, the master thread forks a parallel region.
*   All threads in the team obtain their unique thread number and print it.
*   The master thread only prints the total number of threads. Two OpenMP
*   library routines are used to obtain the number of threads and each
*   thread's number.
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* LAST REVISED: 04/06/05
*****/
#include <omp.h>
#include <stdio.h>
#include <stdlib.h>

int main (int argc, char *argv[])
{
    int nthreads, tid;

    /* Fork a team of threads giving them their own copies of variables */
    #pragma omp parallel private(nthreads, tid)
    {

        /* Obtain thread number */
        tid = omp_get_thread_num();
        printf("Hello World from thread = %d\n", tid);

        /* Only master thread does this */
        if (tid == 0)
        {
            nthreads = omp_get_num_threads();
            printf("Number of threads = %d\n", nthreads);
        }

    } /* All threads join master thread and disband */
}

```