

Assignment on OMP

1. Write OMP program to show how each thread in the parallel region decides what part of the global array x to work on, based on the thread number.
2. Write an OMP program that uses the `OMP_NUM_THREADS` environment variable to control the number of threads on multiple nesting levels.
3. Write an OMP program which have multiple independent loops within a parallel region, use the **nowait** clause to avoid the implied barrier at the end of the loop construct.
4. Write an OMP program for section construct that uses first private clause to use to initialize the private copy of **section_count** of each thread.
5. Write an OMP program to traverse a tree-like structure using explicit tasks and traverse function.
6. Using OMP, write a recursive binary search program that uses final clause.
7. Write OMP program for concurrent execution of tasks using multiple flow dependences using the depend clause on the task construct.
8. Write OPM program for task-based blocked matrix multiplication. Matrices are of $N \times N$ elements, and the multiplication is implemented using blocks of $BS \times BS$ elements.