Parallel Programming

Part B

Trap-NotWorking and Trap-Working

A screenshot of a cell phone

Description automatically generated

The above image shows the result of both trap-working and trap-notworking. The program instructs us to use 4 threads b/c the pi contains 4 core processors. These programs are computing the integral value of sin(x) from 0 – pi. The difference b/w the two is that in trap-notworking line 37 is “#pragma omp parallel for private(i) shared (a, n, h, integral)” and in trap-working its split into two lines as “#pragma omp parallel for \ private(i) shared (a, n, h) reduction(+: integral)”. B/c of splitting into two lines the processor is performing the reduction parallel algorithm.

A screenshot of a cell phone

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The barrier is so that all the parallel program is completed before moving to the next section. The above picture shows how the barrier program once implemented properly computes the same ones then moves to the next ones.

A screenshot of a cell phone

Description automatically generated

The above picture shows the result of both with pragma and without pragma. With pragma the result is both the master thread and the worker thread. Whereas, without the pragma only the master thread is displayed.