Experiment 06

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Aim :- Parallel Travelling salesman Problem using openMP implementation.

Theory :

- The Traveling Salesman Problem (TSP) is a problem to find shortest possible route that visits a set of cities and returns the starting city.
- OpenMP is a popular (api) API for parallel programming is a shared-memory architecture
- we can parallelize the local search part of the TSP algorithm using openMP to speedup its execution
- To parallelize the algorithm, we can use the #pragma omp parallel for directive and the openMP 'reduction' clause to parallelize the loop that iterates over all pairs of cities and find the best swap for each thread.

- We can also use the # pragma omp parallel ' directive the single directive and the 'barrier' directive to ensure correct and efficient execution.

- Parallelizing the local search of TSP algorithm using openMP can speed up the solution of the problem and find good solutions in a reasonable amount of time.