Assignment - 3

AIM: Implementing Min, Max, Sum and Avg operations using parallel Reduction.

THEORY:-

- The min-reduction function finds are minimum valves in the input array using the #pragma omp parallel for reduction (min : min-value) directive which creates a parallel region and divides the loop iterations among the available threads. Each threads perform the comparisons operation in parallel and updates the min-value variable if a smaller valve is found.

Similarly, the max-reduction finds the maximum valve is the array, sum-reduction finds the sum of elements of array and average-reduction finds the average of the elements of array by dividing the sum by the size of the array

- The reduction clause is used to combine the results of multiple threads into a single valve, which is then return by the function. the min and max operations are used for the min-reduction & max-reduction functions resp and the + operator is used for the sum-reduction and average reduction, max-reduction, sum-reduction and average-reduction to compute the values of min, max sum & average respectively