Name : Akshata Jadhav

BE-A-25

Practical No 3: Implement Min, Max, Sum and Average operations using Parallel Reduction.

Code:

```
#include <iostream>
#include <vector>
#include <omp.h>
using namespace std;
int main() {
   vector<int> arr = {5, 3, 8, 4, 2, 7, 1, 6}; // Sample array
   int minVal = arr[0], maxVal = arr[0], sum = 0;
   double avg;
   #pragma omp parallel for reduction(min:minVal) reduction(max:maxVal) reduction(+:sum)
   for (int i = 0; i < arr.size(); i++) {
      if (arr[i] < minVal) minVal = arr[i];
      if (arr[i] > maxVal) maxVal = arr[i];
      sum += arr[i];
   }
   avg = sum / (double)arr.size();
   cout << "Min: " << minVal << endl;
   cout << "Max: " << maxVal << endl;
   cout << "Sum: " << sum << endl;
   cout << "Average: " << avg << endl;
   return 0;
}
```