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Practical No.3

Aim: Implement Min, Max, Sum and Average operations using Parallel Reduction.

Program:

```
#include <iostream>

#include <omp.h>

#include <vector>

#include <climits>


using namespace std;


int main() {


    vector<int> vec = {12, 45, 23, 67, 34, 89, 25};


    int minVal = INT_MAX;

    int maxVal = INT_MIN;

    long long sum = 0;

    double avg = 0.0;



    #pragma omp parallel for reduction(min:minVal) reduction(max:maxVal) reduction(+:sum)

    for (int i = 0; i < vec.size(); i++) {

        minVal = min(minVal, vec[i]);

        maxVal = max(maxVal, vec[i]);

        sum += vec[i];

    }
```

```cpp
    avg = static_cast<double>(sum) / vec.size();


    cout << "Min: " << minVal << endl;

    cout << "Max: " << maxVal << endl;

    cout << "Sum: " << sum << endl;

    cout << "Average: " << avg << endl;


    return 0;
}
```

Output:

Min: 12

Max: 89

Sum: 295

Average: 42.1429

=== Code Execution Successful ===