

CPP code for Min,Max,Average,Sum

```
#include <iostream>
// #include <vector>
#include <omp.h>
#include <climits>
using namespace std;
void min_reduction(int arr[], int n) {
    int min_value = INT_MAX;
    #pragma omp parallel for reduction(min: min_value)
    for (int i = 0; i < n; i++) {
        if (arr[i] < min_value) {
            min_value = arr[i];
        }
    }
    cout << "Minimum value: " << min_value << endl;
}
void max_reduction(int arr[], int n) {
    int max_value = INT_MIN;
    #pragma omp parallel for reduction(max: max_value)
    for (int i = 0; i < n; i++) {
        if (arr[i] > max_value) {
            max_value = arr[i];
        }
    }
    cout << "Maximum value: " << max_value << endl;
}
void sum_reduction(int arr[], int n) {
    int sum = 0;
    #pragma omp parallel for reduction(+: sum)
    for (int i = 0; i < n; i++) {
        sum += arr[i];
    }
    cout << "Sum: " << sum << endl;
}
void average_reduction(int arr[], int n) {
    int sum = 0;
    #pragma omp parallel for reduction(+: sum)
    for (int i = 0; i < n; i++) {
        sum += arr[i];
    }
    cout << "Average: " << (double)sum / (n-1) << endl;
}

int main() {
    int *arr, n;
    cout << "\n enter total no of elements=>";
    cin >> n;
    arr = new int[n];
    cout << "\n enter elements=>";
    for (int i = 0; i < n; i++)
    {
```

```
cin>>arr[i];
}
// int arr[] = {5, 2, 9, 1, 7, 6, 8, 3, 4};
// int n = size(arr);
min_reduction(arr, n);
max_reduction(arr, n);
sum_reduction(arr, n);
average_reduction(arr, n);
}
```

Output



```
Activities Terminal May 3 11:29
root@ubuntu-Vostro-460: /home/ubuntu
root@ubuntu-Vostro-460: /home/ubuntu# gedit ass3.cpp
(gedit:6899): Tepl-WARNING **: 11:27:55.317: GVfs metadata is not supported. Fallback to TeplMetadataManager. Either GVfs is not correctly installed or GVfs metadata are not supported on this platform. In the latter case, you should configure Tepl with --disable-gvfs-metadata.
root@ubuntu-Vostro-460: /home/ubuntu# g++ -o gfg -fopenmp ass3.cpp
root@ubuntu-Vostro-460: /home/ubuntu# ./gfg

enter total no of elements=>5

enter elements=>8
6
3
4
2
Minimum value: 2
Maximum value: 8
Sum: 23
Average: 5.75
root@ubuntu-Vostro-460: /home/ubuntu#
```