Max, Min, Sum and Average of array

#include <stdio.h>

#include <stdlib.h>

#include <omp.h>

int main() {

int arr[] = {1, 2, 3, 4, 5};

int n = sizeof(arr) / sizeof(arr[0]);

int min = arr[0];

int max = arr[0];

int sum = 0;

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

for (int i = 0; i < n; i++) {

if (arr[i] < min) {

min = arr[i];

}

if (arr[i] > max) {

max = arr[i];

}

sum += arr[i];

// Print out the current thread ID and the number of threads

printf("Thread %d out of %d threads is working on element %d\n", omp\_get\_thread\_num(), omp\_get\_num\_threads(), i);

}

double average = (double) sum / n;

printf("Min value: %d\n", min);

printf("Max value: %d\n", max);

printf("Sum value: %d\n", sum);

printf("Average value: %f\n", average);

return 0;

}

OUTPUT:

samarjeet@samarjeet-VirtualBox:~/codes/OpenMP$ gcc -fopenmp -o p\_MMSA p\_MMSA.c

samarjeet@samarjeet-VirtualBox:~/codes/OpenMP$ ./p\_MMSA

Thread 0 out of 1 threads is working on element 0

Thread 0 out of 1 threads is working on element 1

Thread 0 out of 1 threads is working on element 2

Thread 0 out of 1 threads is working on element 3

Thread 0 out of 1 threads is working on element 4

Min value: 1

Max value: 5

Sum value: 15

Average value: 3.000000