Assignment 3

#include<iostream>

#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){

double sum=0;

#pragma omp parallel for reduction(+: sum)

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

sum+=arr[i];

}

cout<<"Average : "<<sum/n<<endl;

}

int main(){

int\* arr,n;

cout<<"Enter the total number of elements=>";

cin>>n;

arr=new int[n];

cout<<"\nEnter the elements=>";

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

cin>>arr[i];

}

min\_reduction(arr,n);

max\_reduction(arr,n);

sum\_reduction(arr,n);

average\_reduction(arr,n);

}

Run file  
g++ -fopenmp program.cpp -o program  
  
./program