

CPP code for bubble sort

```
#include<iostream>
#include<stdlib.h>
#include<omp.h>
using namespace std;
void bubble(int *, int);
void swap(int &, int &);

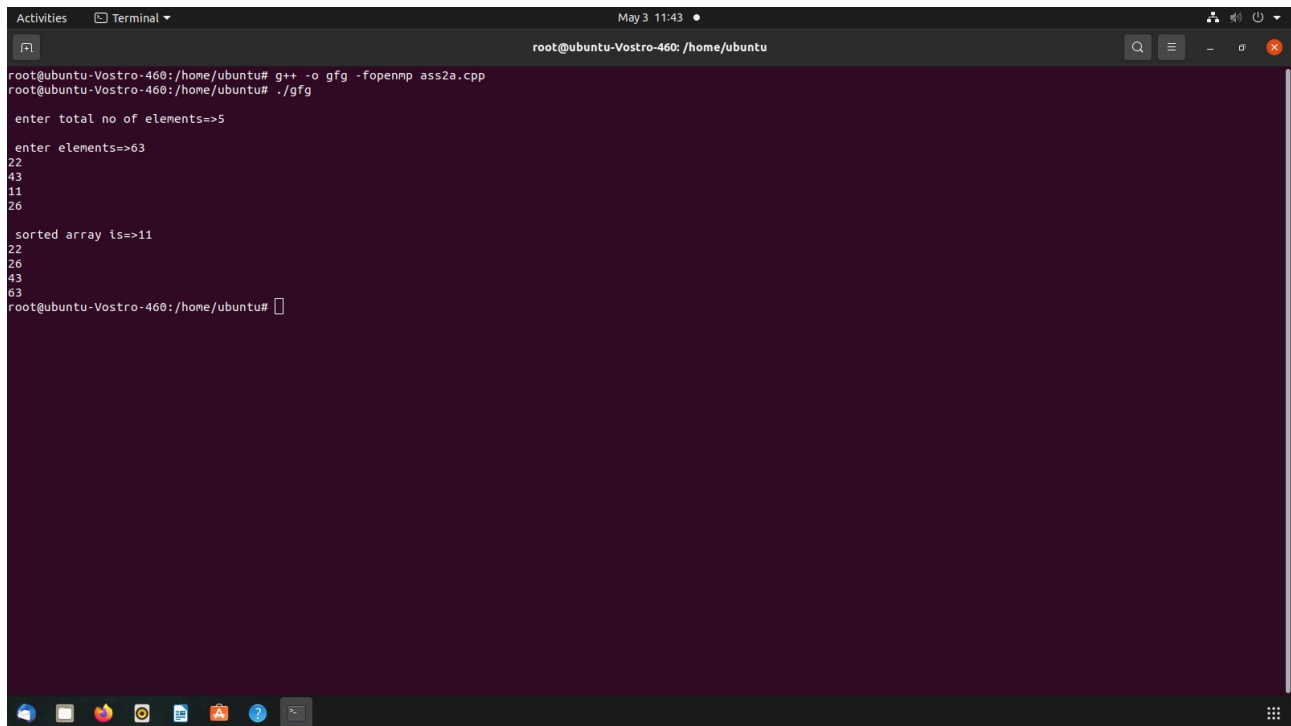
void bubble(int *a, int n)
{
    for( int i = 0; i < n; i++ )
    {
        int first = i % 2;
        #pragma omp parallel for shared(a,first)
        for( int j = first; j < n-1; j += 2 )
        {
            if( a[ j ] > a[ j+1 ] )
            {
                swap( a[ j ], a[ j+1 ] );
            }
        }
    }
}

void swap(int &a, int &b)
{
    int test;
    test=a;
    a=b;
    b=test;
}

int main()
{
    int *a,n;
    cout<<"\n enter total no of elements=>";
    cin>>n;
    a=new int[n];
    cout<<"\n enter elements=>";
    for(int i=0;i<n;i++)
    {
        cin>>a[i];
    }
    bubble(a,n);
    cout<<"\n sorted array is=>";
    for(int i=0;i<n;i++)
    {
        cout<<a[i]<<endl;
    }
}
```

```
return 0;  
}
```

Output

A screenshot of a Linux terminal window. The window title is "Activities" and "Terminal". The terminal shows the execution of a C++ program. The user enters the total number of elements as 5 and the number of elements as 63. The program outputs the sorted array as 11, 22, 26, 43, 63.

```
root@ubuntu-Vostro-460:/home/ubuntu# g++ -o gfg -fopenmp ass2a.cpp  
root@ubuntu-Vostro-460:/home/ubuntu# ./gfg  
  
enter total no of elements=>5  
enter elements=>63  
22  
43  
11  
26  
  
sorted array is=>11  
22  
26  
43  
63  
root@ubuntu-Vostro-460:/home/ubuntu#
```