

## CPP code for bubble sort

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

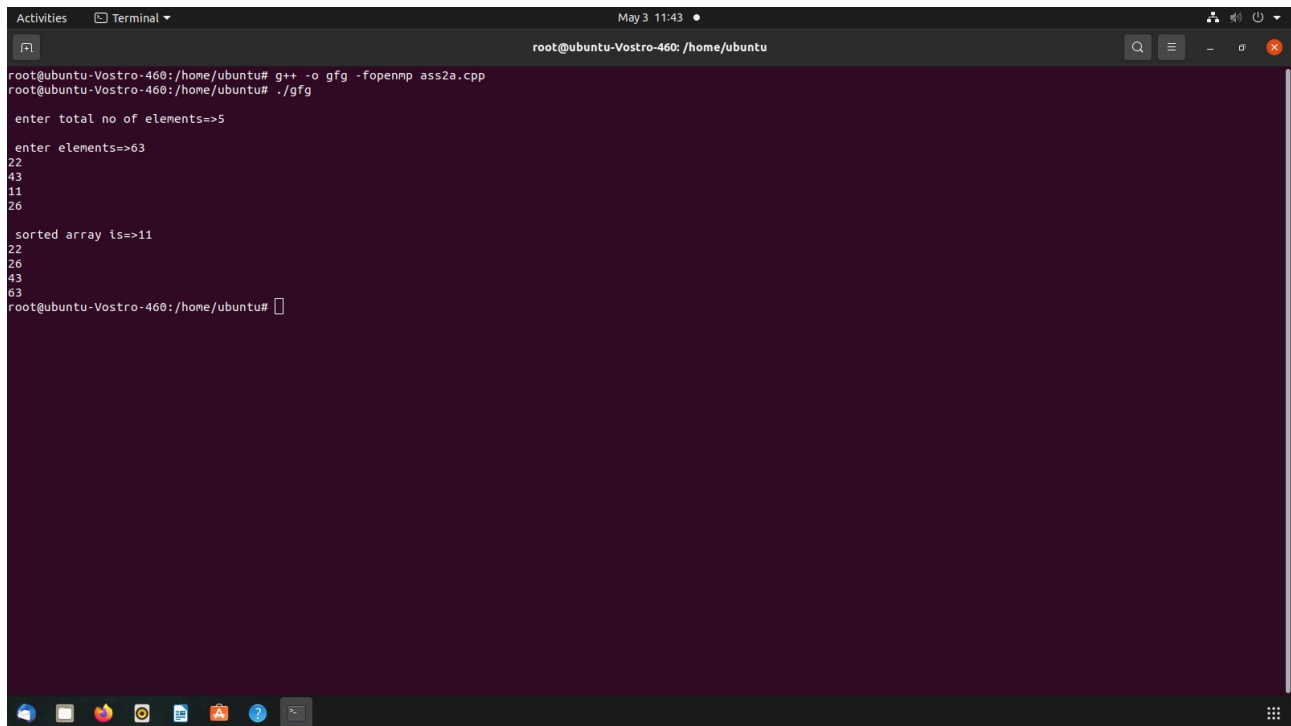
void bubble(int *a, int n)
{
    for( int i = 0; i < n; i++ )
    {
        int first = i % 2;
        #pragma omp parallel for shared(a,first)
        for( int j = first; j < n-1; j += 2 )
        {
            if( a[ j ] > a[ j+1 ] )
            {
                swap( a[ j ], a[ j+1 ] );
        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

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 terminal window titled 'Terminal' with a dark background. The prompt is 'root@ubuntu-Vostro-460: /home/ubuntu'. The user enters 'g++ -o gfg -fopenmp ass2a.cpp' and then './gfg'. The program prompts for 'enter total no of elements=>5' and 'enter elements=>63'. It then displays a list of numbers: 22, 43, 11, 26. Below this, it says 'sorted array is=>11' and displays the sorted numbers: 22, 26, 43, 63. The prompt returns to 'root@ubuntu-Vostro-460: /home/ubuntu#'. The terminal has a standard Ubuntu desktop environment visible at the bottom with various icons.

```
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#
```

```
Activities Terminal May 3 11:46 root@ubuntu-Vostro-460: /home/ubuntu
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# gedit ass2a.cpp
root@ubuntu-Vostro-460:/home/ubuntu# gedit ass2b.cpp
(gedit:8570): Tepl-WARNING **: 11:45:40.799: 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 ass2b.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
63root@ubuntu-Vostro-460:/home/ubuntu# gedit ass2b.cpp
```