heaptree\_07.cpp

**Compile:** g++ heaptree\_07.cpp -o heaptree\_07

**Run:** ./heaptree\_07

**Program:**

#include<iostream>

using namespace std;

intmaxheap[12],n;

voiddeleteheap(int x[],int p);

void display(int a[],int p=n)

{

for(inti=0;i<p;i++)

cout<<"\t"<<a[i];

}

voidinsertheap(int x[])

{

inti,elt,s,f;

for(i=1;i<n;i++)

{

elt=x[i];

s=i;

f=(s-1)/2;

while((s>0) && (x[f]<elt))

{

x[s]=x[f];

s=f;

f=(s-1)/2;

}

x[s]=elt;

}

cout<<"\n\n\ninitial heap ";

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

{

maxheap[i]=x[i];

cout<<"\t"<<x[i];

}

deleteheap(x,0);

}

voiddeleteheap(int x[],int p)

{

inti,s,f,ivalue,pass=1;

for(i=n-1;i>p;i--)

{

ivalue=x[i];

x[i]=x[0];

f=0;

if(i==1)

s=-1;

else

s=1;

if((i>2) && (x[2]>x[1]))

s=2;

while((s>=0) && (ivalue<x[s]))

{

x[f]=x[s];

f=s;

s=2\*f+1;

if(s>(i-1))

s=-1;

}

x[f]=ivalue;

if(p==0)

{

cout<<"\n\n\npass "<<pass++<<"\t";

display(x);

}

}

}

int main()

{

inti,a[12],k;

cout<<"\n\n\t\t\tHeap Sort";

cout<<"\n\n\nenter number of elements ";

cin>>n;

cout<<"\n\nenter array elements ";

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

cin>>a[i];

cout<<"\n\n\noriginal array ";

display(a);

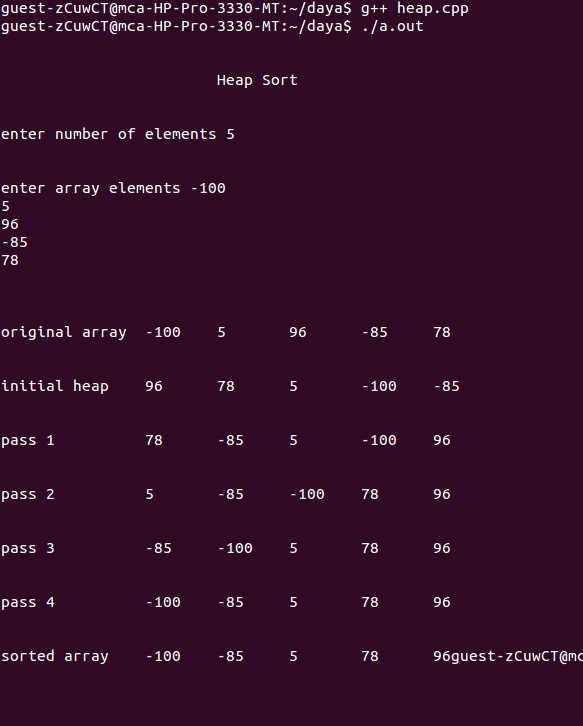
insertheap(a);

cout<<"\n\n\nsorted array ";

display(a);

}

**Output:**

****