***Heap sort:***

#include <stdio.h>

int main()

{

int heap[100],size,i,j,c,root,temp;

printf( "Enter the size of array:");

scanf("%d", &size);

printf("Enter the elements :\n");

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

{

scanf("%d",&heap[i]);

}

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

{

c=i;

while(c!=0)

{

root=(c-1)/2;

if(heap[root]<heap[c])

{

temp=heap[root];

heap[root]=heap[c];

heap[c]=temp;

}

c=root;

}

}

for (j=size-1; j>=0; j--)

{

temp=heap[0];

heap[0]=heap[j];

heap[j]=temp;

root=0;

do

{

c=2\*root+1;

if((heap[c]<heap[c+1])&&c<j-1)

{

c++;

}

if (heap[root]<heap[c]&&c<j)

{

temp=heap[root];

heap[root]=heap[c];

heap[c]=temp;

}

root=c;

}

while(c<j);

}

printf("\n\nThe sorted array is : \n\n ");

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

{

printf(" %d, ",heap[i]);

}

return 0;

}