**#include <stdio.h>**

**void swap(int \* a, int \* b){**

**int temp;**

**temp=\*a;**

**\*a=\*b;**

**\*b=temp;**

**}**

**int findmaximum(int array[], int a, int b){**

**int c;**

**if(array[a]>array[b]){**

**c=a;**

**}**

**else{**

**c=b;**

**}**

**return(c);**

**}**

**void heapify(int array[], int n){**

**int i;**

**//printf("The array to be heaped is \n");**

**//for(i=0;i<n;i++){**

**// printf("%d ",array[i]);**

**//}**

**//printf("\n");**

**int p;**

**int maximumvalueindex;**

**p=(n/2)-1;**

**while(p>=0){**

**//printf("\np is %d",p);**

**int c;**

**c=p;**

**while((2\*c+1<=n-1 && array[2\*c+1]>array[c]) || (2\*c+2<=n-1 && array[2\*c+2]>array[c])){**

**maximumvalueindex=findmaximum(array,c, 2\*c+1);**

**if((2\*c+2<=n-1)){**

**maximumvalueindex=findmaximum(array, 2\*c+2, maximumvalueindex);**

**}**

**//printf("c is %d swapping %d with %d\n",c,array[c],array[maximumvalueindex]);**

**swap(&array[c], &array[maximumvalueindex]);**

**c=maximumvalueindex;**

**//printf("c is now %d\n",maximumvalueindex);**

**}**

**p=p-1;**

**}**

**}**

**void heap\_sort(int array[], int n, int answer[]){**

**int i;**

**i=0;**

**heapify(array,n);**

**while(i<n){**

**//printf("i=%d\n",i);**

**answer[n-1-i]=array[0];**

**swap(&array[0],&array[n-i-1]);**

**heapify(array, n-(i+1));**

**i=i+1;**

**}**

**}**

**void main(){**

**//int array[]={10,20,15,35,25,20,50,60};**

**//heapify(array,8);**

**int i;**

**//for(i=0;i<8;i++){**

**// printf("%d ",array[i]);**

**//}**

**int n;**

**printf("Enter the number of elements in the array");**

**scanf("%d",&n);**

**printf("Enter the elements in the array");**

**int array[n];**

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

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

**}**

**int arrayanswer[n];**

**heap\_sort(array, n, arrayanswer);**

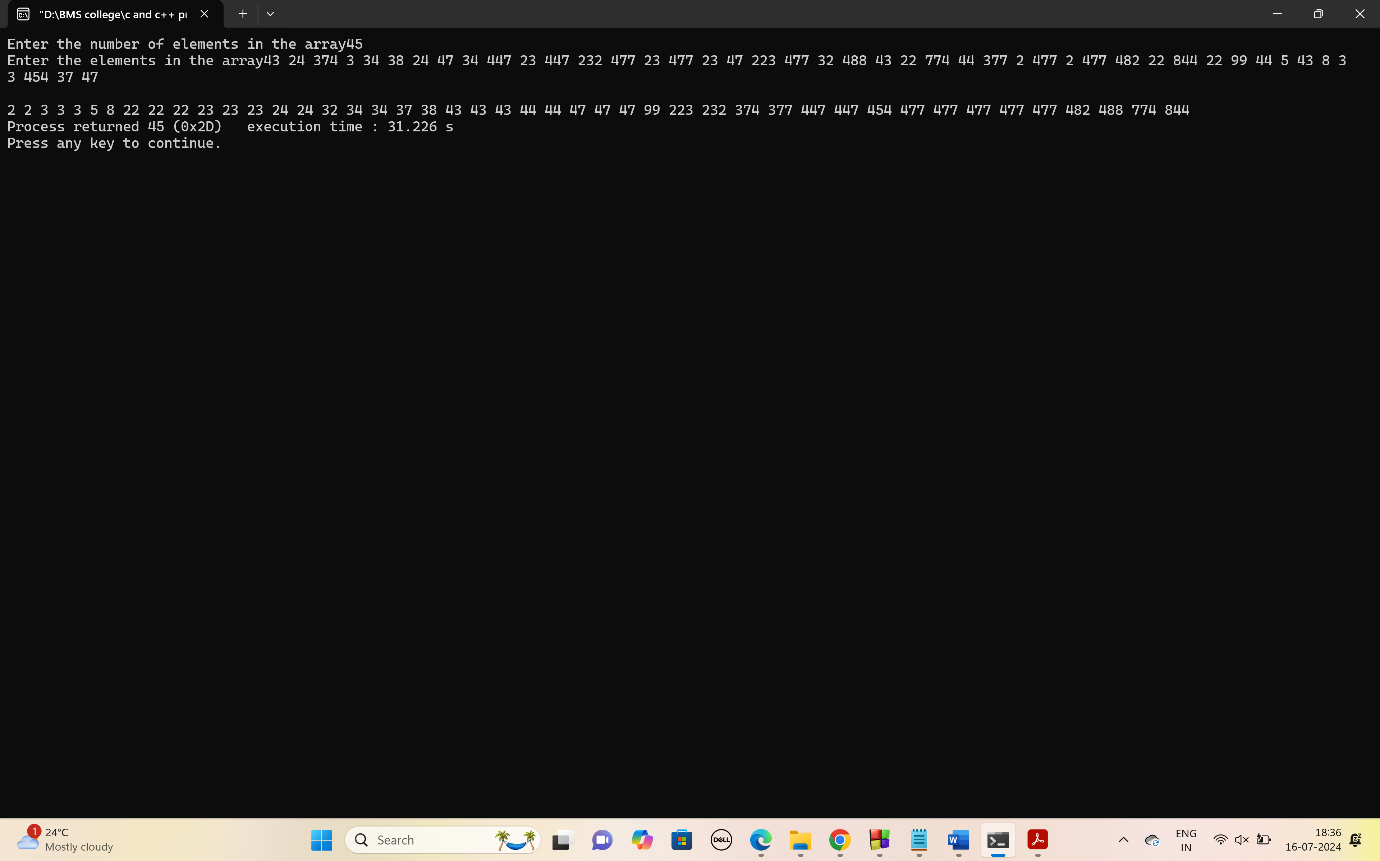
**printf("\n");**

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

**printf("%d ",arrayanswer[i]);**

**}**

**}**

****