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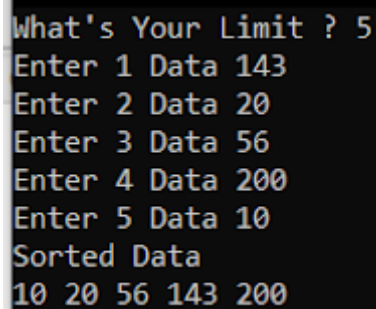
WRITE A C PROGRAM FOR SORTING USING HEAP SORT

```
1. #include<stdio.h>
2.
3. void insertion(int a[],int n);
4. void heap(int a[],int n);
5.
6. int main(){
7.     int a[100],i,n;
8.     printf("What's Your Limit ? ");
9.     scanf("%d",&n);
10.    for(i=1;i<=n;i++){
11.        printf("Enter %d Data ",i);
12.        scanf("%d",&a[i]);
13.    }
14.    heap(&a[0],n);
15.    printf("Sorted Data\n");
16.    for(i=1;i<=n;i++){
17.        printf("%d ",a[i]);
18.    }
19.    return 0;
20. }
21. void heap(int *a,int n){
22.     int i,j,k,key;
23.
24.     for(k=2;k<=n;k++){
25.         i=k;
26.         key=a[k];
27.         j=i/2;
28.         while(key>=a[j]&& i>1){
29.             a[i]=a[j];
```

```

30.             i=j;
31.             j=i/2;
32.             if(j<1){
33.                 j=1;
34.             }
35.         }
36.         a[i]=key;
37.     }
38.     insertion(&a[0],n);
39. }
40. void insertion(int *a,int n){
41.     int key,i,j,f,k;
42.
43.     for(k=2;k<=n;k++){
44.         key=a[k];
45.         j=k-1;
46.         f=0;
47.         while(j>=1&&f==0){
48.             if(key<a[j]){
49.                 a[j+1]=a[j];
50.                 j--;
51.             }
52.             else{
53.                 f=1;
54.             }
55.         }
56.         a[j+1]=key;
57.     }
58. }

```



```

What's Your Limit ? 5
Enter 1 Data 143
Enter 2 Data 20
Enter 3 Data 56
Enter 4 Data 200
Enter 5 Data 10
Sorted Data
10 20 56 143 200

```

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Labels: c program for sorting using heap sort, SIS sort, sorting using heap sort, straight insertion sort

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