

main.c



Run

Output

Clear

```
1 #192210211
2 #include <stdio.h>
3 void heapify(int a[], int n, int i) {
4     int largest = i;
5     int left = 2 * i + 1;
6     int right = 2 * i + 2;
7     if (left < n && a[left] > a[largest])
8         largest = left;
9     if (right < n && a[right] > a[largest])
10         largest = right;
11     if (largest != i) {
12         int temp = a[i];
13         a[i] = a[largest];
14         a[largest] = temp;
15         heapify(a, n, largest); }
16 void heapSort(int a[], int n) {
17     for (int i = n / 2 - 1; i >= 0; i--)
18         heapify(a, n, i);
19     for (int i = n - 1; i >= 0; i--) {
20         int temp = a[0];
21         a[0] = a[i];
22         a[i] = temp;
23         heapify(a, i, 0); }
24 void printArr(int arr[], int n) {
25     for (int i = 0; i < n; ++i) {
26         printf("%d", arr[i]);
27         printf(" "); } }
28 int main() {
29     int a[] = {48, 10, 23, 43, 28, 26, 1};
30     int n = sizeof(a) / sizeof(a[0]);
```

```
/tmp/dKzoRx1qjh.o
Before sorting array elements are -
48 10 23 43 28 26 1
After sorting array elements are -
1 10 23 26 28 43 48
```

main.c



Run

Output

Clear

```
8     largest = left;
9     if (right < n && a[right] > a[largest])
10        largest = right;
11     if (largest != i) {
12         int temp = a[i];
13         a[i] = a[largest];
14         a[largest] = temp;
15         heapify(a, n, largest); }}
16 void heapSort(int a[], int n) {
17     for (int i = n / 2 - 1; i >= 0; i--)
18         heapify(a, n, i);
19     for (int i = n - 1; i >= 0; i--) {
20         int temp = a[0];
21         a[0] = a[i];
22         a[i] = temp;
23         heapify(a, i, 0); } }
24 void printArr(int arr[], int n) {
25     for (int i = 0; i < n; ++i) {
26         printf("%d", arr[i]);
27         printf(" "); } }
28 int main() {
29     int a[] = {48, 10, 23, 43, 28, 26, 1};
30     int n = sizeof(a) / sizeof(a[0]);
31     printf("Before sorting array elements are - \n");
32     printArr(a, n);
33     heapSort(a, n);
34     printf("\nAfter sorting array elements are - \n");
35     printArr(a, n);
36     return 0;
37 }
```

/tmp/dKzoRx1qjh.o

Before sorting array elements are -

48 10 23 43 28 26 1

After sorting array elements are -

1 10 23 26 28 43 48