HEAP SORT

CODE:

```
#include <stdio.h>
void heapify(int arr[], int n, int i) {
    int largest = i;
    int left = 2 * i + 1;
    int right = 2 * i + 2;
    if (left < n && arr[left] > arr[largest])
        largest = left;
    if (right < n && arr[right] > arr[largest])
        largest = right;
    if (largest != i) {
        int temp = arr[i];
        arr[i] = arr[largest];
        arr[largest] = temp;
        heapify(arr, n, largest);
    }
}
void heapSort(int arr[], int n) {
    for (int i = n / 2 - 1; i >= 0; i--)
        heapify(arr, n, i);
    for (int i = n - 1; i > 0; i--) {
        int temp = arr[0];
        arr[0] = arr[i];
        arr[i] = temp;
        heapify(arr, i, 0);
    }
}
int main() {
    int arr[100], n;
```

```
    printf("Enter number of elements: ");
    scanf("%d", &n);

    printf("Enter %d integers:\n", n);
    for (int i = 0; i < n; i++)
        scanf("%d", &arr[i]);

    heapSort(arr, n);

    printf("Sorted array:\n");
    for (int i = 0; i < n; i++)
        printf("%d ", arr[i]);

    return 0;
}
```

OUTPUT: