|  |
| --- |
| #include <stdio.h> |
|  |  |
|  | void swap(int \*a, int \*b) { |
|  | int temp = \*a; |
|  | \*a = \*b; |
|  | \*b = temp; |
|  | } |
|  | void heapify(int array[], int size, int root) { |
|  | int largest = root; |
|  | int left = root\*2+1; |
|  | int right = root\*2+2; |
|  |  |
|  | if (left<size && array[left]>array[largest]) { |
|  | largest = left; |
|  | } |
|  | if (right<size && array[right]>array[largest]) { |
|  | largest = right; |
|  | } |
|  | if (largest != root) { |
|  | swap(&array[root], &array[largest]); |
|  | heapify(array, size, largest); |
|  | } |
|  | } |
|  | void heapSort(int array[], int size) { |
|  | int i; |
|  | for (i=size/2-1; i>=0; i--) |
|  | heapify(array, size, i); |
|  | for (i=size-1; i>0; i--) { |
|  | swap(&array[0], &array[i]); |
|  | heapify(array, i, 0); |
|  | } |
|  | } |
|  | int printArray(int a[], int size) { |
|  | int i=0; |
|  | for (i=0; i<size; i++) { |
|  | printf("%d\n", a[i]); |
|  | } |
|  | } |
|  | int main() { |
|  | int array[100], i, size; |
|  | printf("Enter size of the array : "); |
|  | scanf("%d", &size); |
|  | printf("Enter array elements\n"); |
|  | for (i=0; i<size; i++) |
|  | scanf("%d", &array[i]); |
|  | printf("Sorted Array\n"); |
|  | heapSort(array, size); |
|  | printArray(array, size); |
|  | } |