Experiment Name / No.: 16

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HEAP SORT

AIM

write a C program to implement heap sort

ALGORITHM

1. start
2. Enter no. of elements
3. Enter the elements, insert into heap
   - 3.1 set val = heap[i]
   - 3.2 Repeat until i>1 and heap[i/2] < val
     - 3.2.1 set heap[i] = heap[i/2]
     - 3.2.2 set i = i/2
   - 3.3 set heap[i] = val
4. Delete elements from heap, reheaping and storing until n>=1
   - 4.1 set par = 1, left = 2, right = 3, item = heap(1), last = heap[4]
   - 4.2 Delete root, set N = N-1
   - 4.3 swap root and last
   - 4.4 Repeat until last <= N
     - 4.4.1 if heap(right) <= heap[left]
       - 4.4.1.1 swap heap[par] and heap[left]
       - 4.4.1.2 set par = left
     - 4.4.2 Else swap if heap(par) and heap[right]

Teacher's Signature:

4.4.2.1 set ptr = right
4.4.3 set left = 2*ptr, right = left + 1
4.5 set binal heap[k] = item
5. print sorted array
6. STOP

CONCLUSION

The program has been executed correctly and output has been verified