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| 19) Write a C program to implement Heap sort  #include<stdio.h>  #include <conio.h>  void Adjust(int Heap\_of\_Numbers[],int i)  {  int j;  int copy;  int Number;  int Reference = 1;  Number=Heap\_of\_Numbers[0];  while(2\*i<=Number && Reference==1)  {  j=2\*i;  if(j+1<=Number && Heap\_of\_Numbers[j+1] > Heap\_of\_Numbers[j])  j=j+1;  if( Heap\_of\_Numbers[j] < Heap\_of\_Numbers[i])  Reference=0;  else  {  copy=Heap\_of\_Numbers[i];  Heap\_of\_Numbers[i]=Heap\_of\_Numbers[j];  Heap\_of\_Numbers[j]=copy;  i=j;  }  }  }  void Make\_Heap(int heap[])  {  int i;  int Number\_of\_Elements;  Number\_of\_Elements=heap[0];  for(i=Number\_of\_Elements/2;i>=1;i--)  Adjust(heap,i);  }  int main()  {  int heap[30];  int NumberofElements;  int i;  int LastElement;  int CopyVariable;  printf("Enter the number of elements:");  scanf("%d",&NumberofElements);  printf("Enter the numbers of the array one by one:");  for(i=1;i<=NumberofElements;i++)  scanf("%d",&heap[i]);  heap[0]=NumberofElements;  Make\_Heap(heap);  while(heap[0] > 1)  {  LastElement=heap[0];  CopyVariable=heap[1];  heap[1]=heap[LastElement];  heap[LastElement]=CopyVariable;  heap[0]--;  Adjust(heap,1);  }  printf("nSorted Array:n");  for(i=1;i<=NumberofElements;i++)  printf("%d ",heap[i]);  return 0;  } |