ASSIGNMENT

Objective: Implementation and Analysis of Heap sort using python

Code:

```
def heapify(arr, n, i):
  largest = i
  l = 2 * i + 1
  r = 2 * i + 2
  if l < n and arr[i] < arr[l]:
    largest = l
  if r < n and arr[largest] < arr[r]:
    largest = r
  if largest != i:
    arr[i],arr[largest] = arr[largest],arr[i] # swap
    heapify(arr, n, largest)
def heapSort(arr):
  n = len(arr)
  for i in range(n, -1, -1):
    heapify(arr, n, i)
  for i in range(n-1, 0, -1):
    arr[i], arr[0] = arr[0], arr[i] # swap
    heapify(arr, i, 0)
arr = [2,5,3,8,6,5,4,7,1]
heapSort(arr)
n = len(arr)
```

print ("Sorted array is")

for i in range(n):

  print (arr[i],end=" ")