**DS WEEK 11 LAB RECORD**

1)

**AIM:** To develop an application to implement heap sort to sort data in ascending order

**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]

heapify(arr, n, largest)

def heapSort(arr):

n = len(arr)

for i in range(n // 2 - 1, -1, -1):

heapify(arr, n, i)

for i in range(n-1, 0, -1):

arr[i], arr[0] = arr[0], arr[i]

heapify(arr, i, 0)

arr = [int(i) for i in input("Enter the element").split()]

heapSort(arr)

n = len(arr)

print ("Sorted array is")

for i in range(n):

print ("%d" %arr[i])

**OUTPUT:**

