20. To develop a program to important heap sort technique;

Heapsout is a compaulsion based souting technique based on a Birary Heap data structure. It is similar to selection sort where we thist third the maximum element and place the maximum element at the end-ule repeat the same process for the remaining element.

The Afine complexity of heapty is Ologens The time complexity of create And Build Hoop () is O(n) The overall time complexity of theap sort is O (nx login)

Ochillory Space: O(logn)

Code:

def heapify (array, a, b):

largest = b

1+046=1

root = 2*6+2

it ica and array(b) convay(1):

largest=1

it rooted and array [largest] < array [root]:

larges t= 100t

it largest! = b1

array[b], array [largest] = array[largest], array[b] heapitylarvay, a, largest)

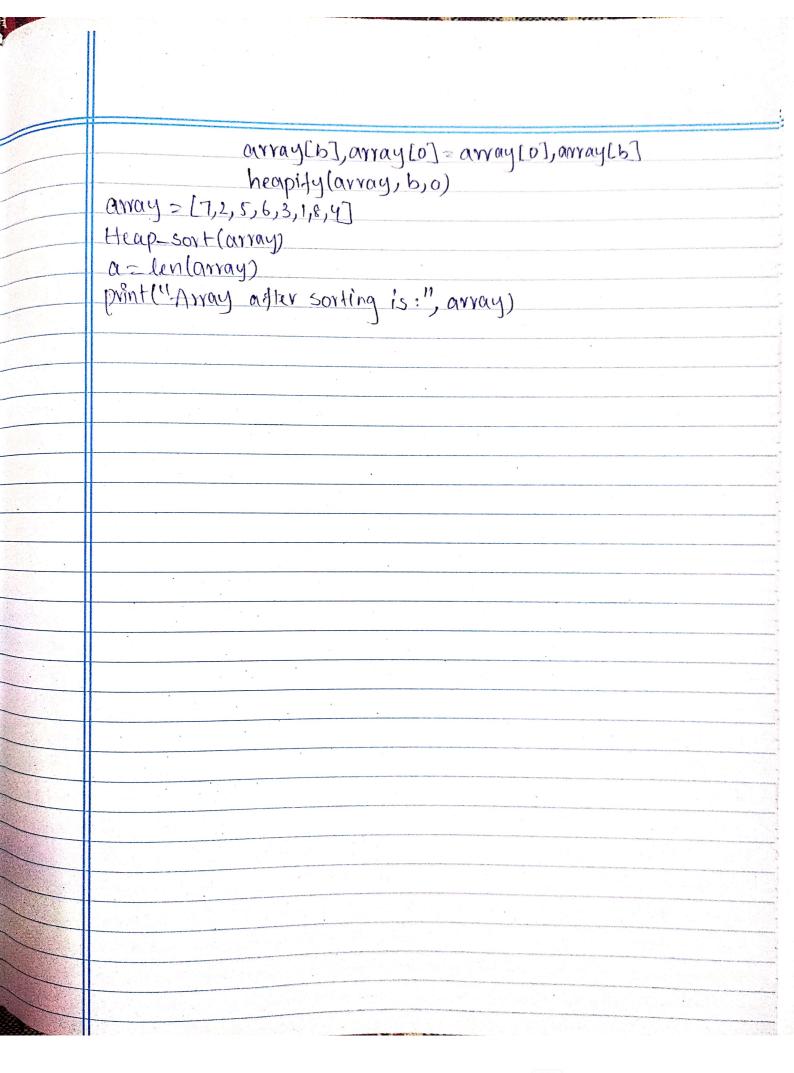
det Heapsortlarray):

a=len (array)

for b in range (all 2-1,-1,-1):

heapty (array, a, b)

for b in range (a-1,0,-1):



Output -

Array after sorting is: [1,2,5,4,5,6,7]