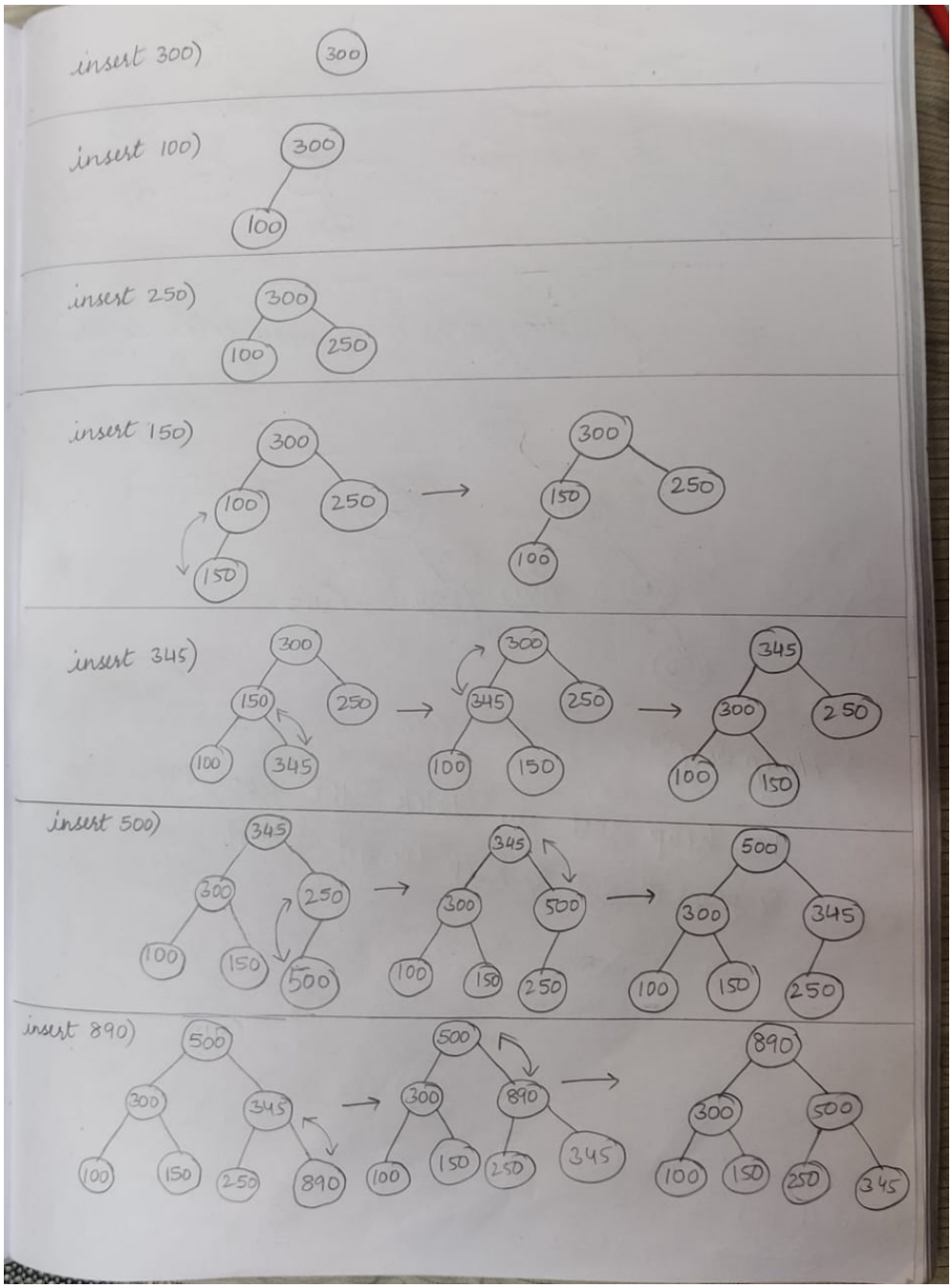
Heap sort, Due is on 11th Nov 2020

Construct max heap and sort it using max heap.

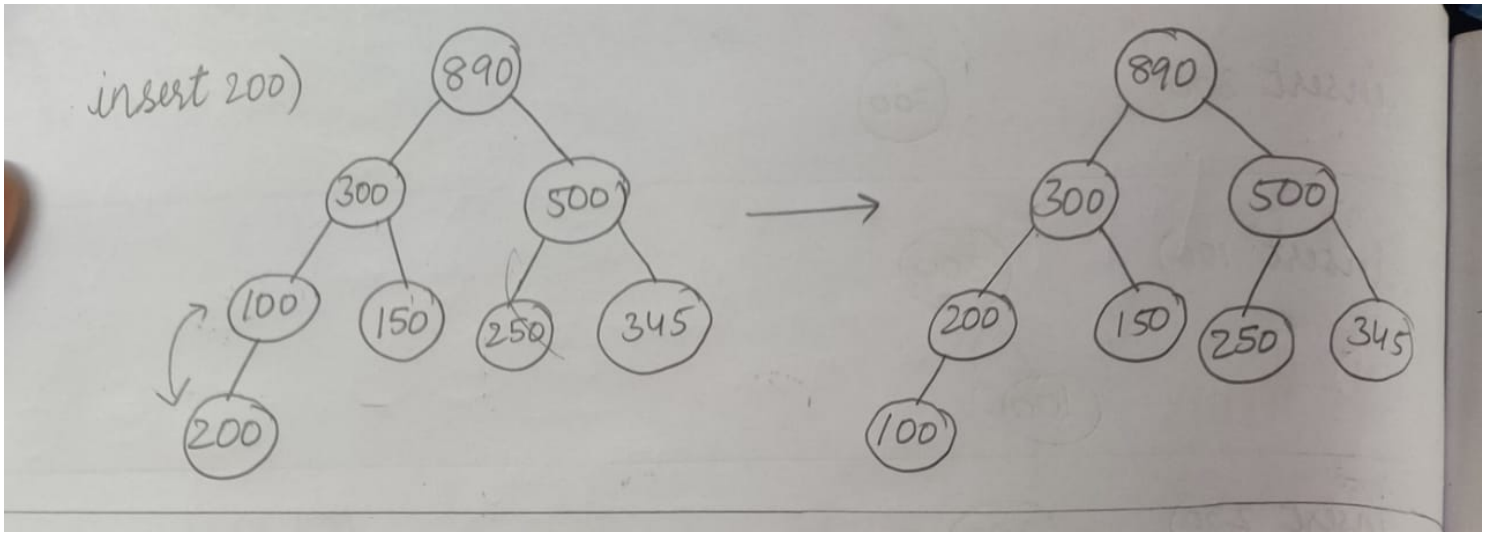
300, 100, 250, 150, 345, 500, 890, 200

Step 1: Construction of max heap

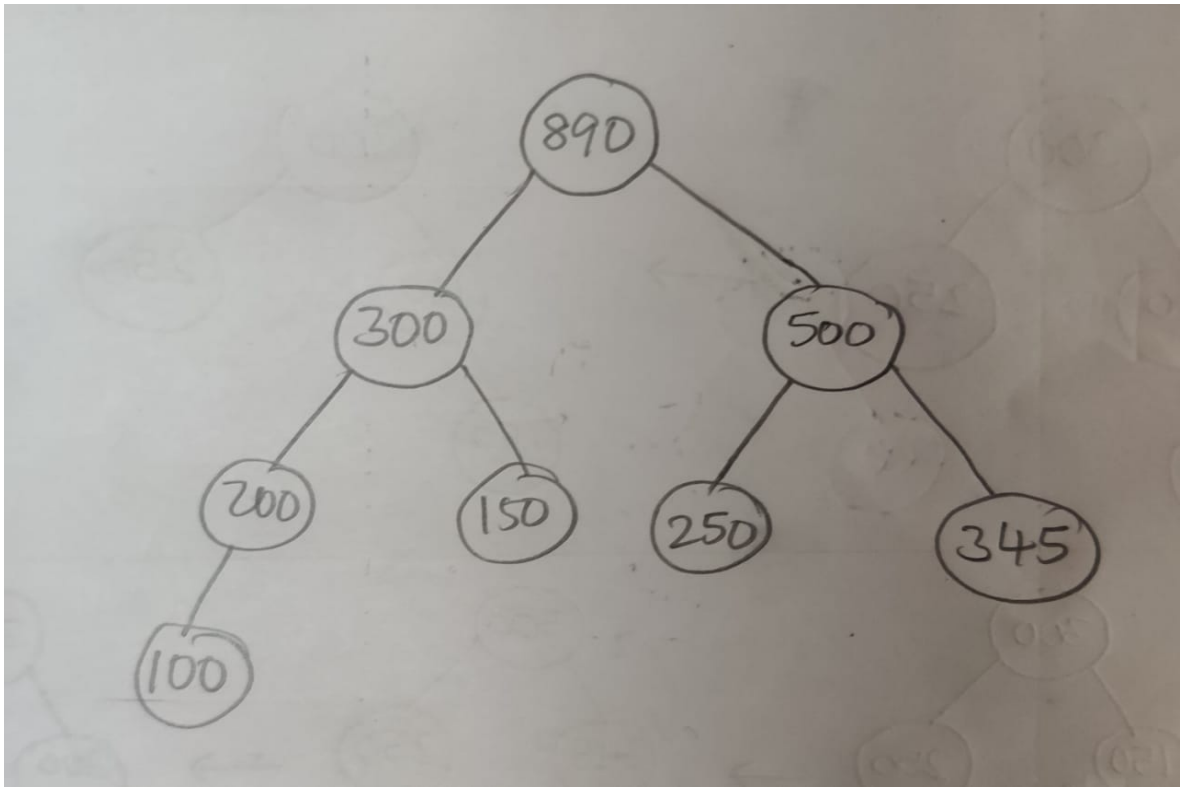
For constructing the max geap, we need to insert the entered elements in the following order as follows:



Heap sort, Due is on 11th Nov 2020



after inserting all elements in the heap, the final Max heap looks as shown below:



HEAP SORT

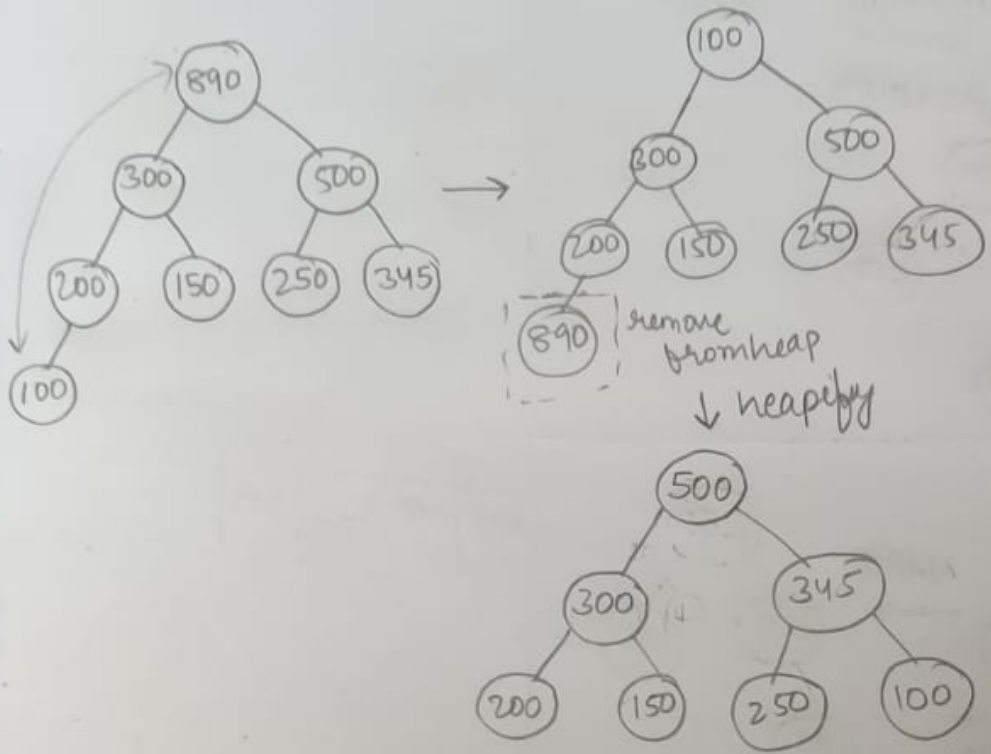
For heap sort, we first store the element in the root node separately , and then delete it from the heap and apply heapify property. We do this until the heap becomes empty

Heap sort, Due is on 11th Nov 2020

Heap Sort

(print root → delete root → heapify)

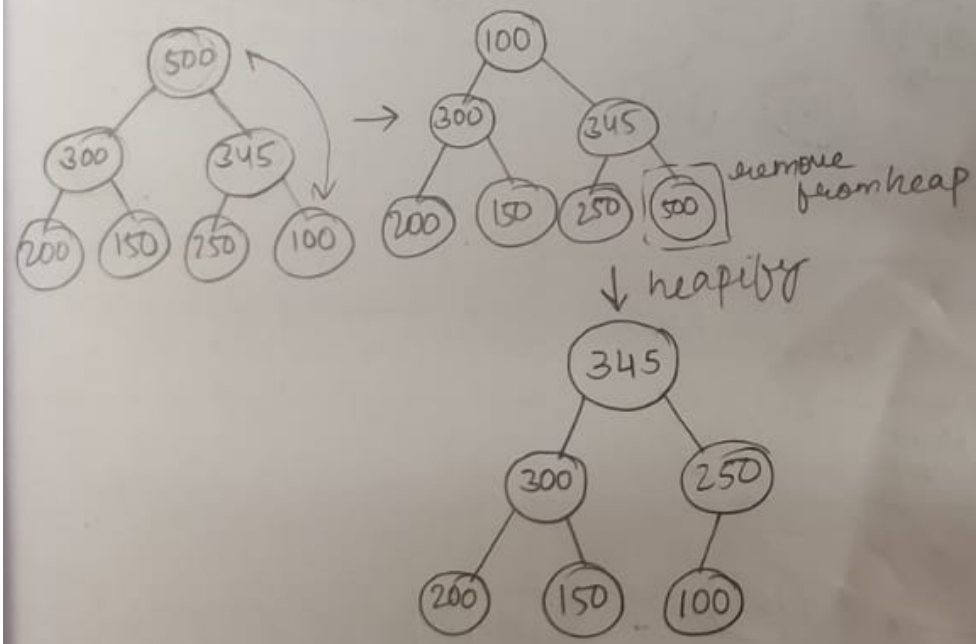
1) delete 890)



Heap Sort order

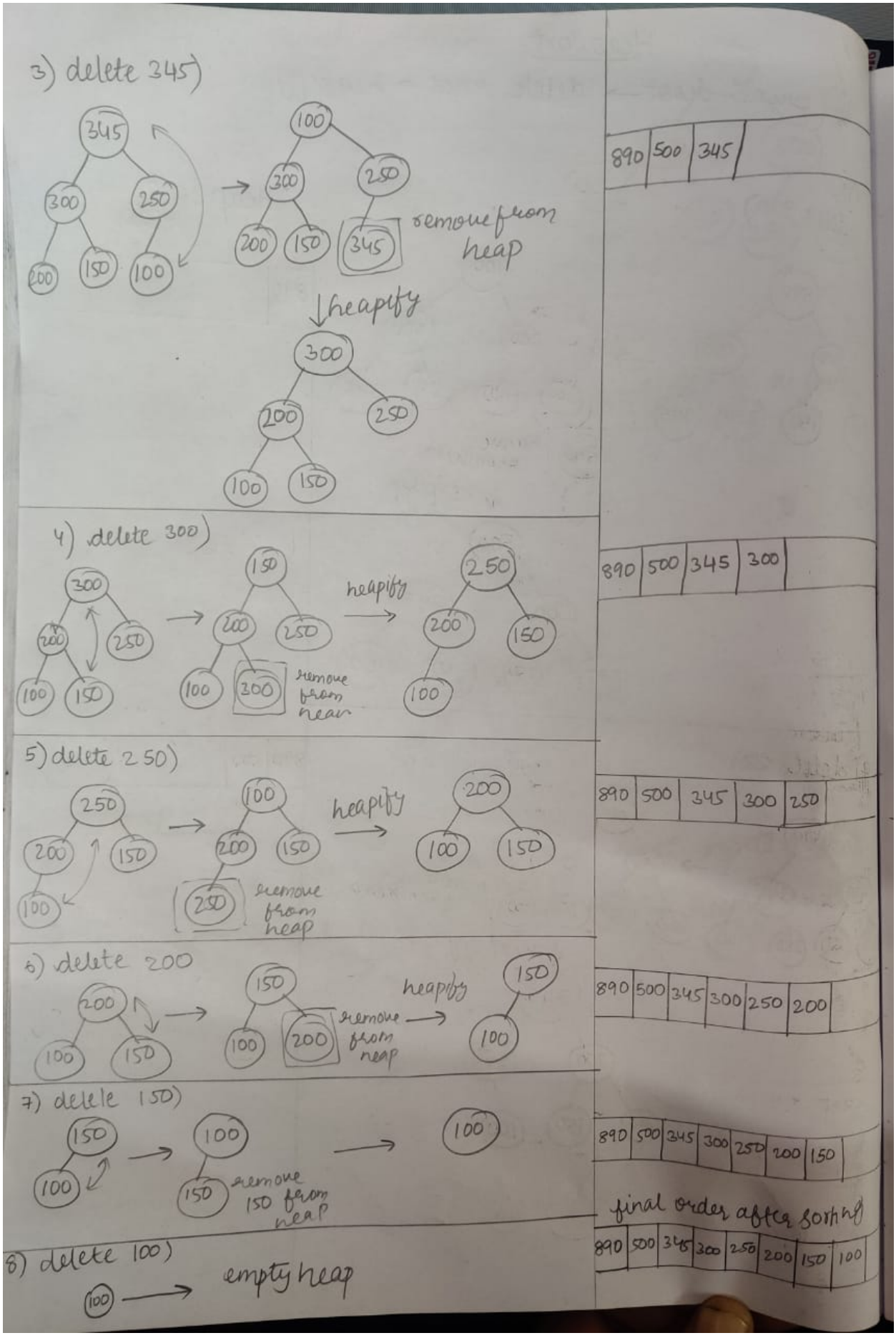
890	

2) delete 500)



890	500	

Heap sort, Due is on 11th Nov 2020



Heap sort, Due is on 11th Nov 2020

So, after heap sort , the final order of the the given numbers is:

890 , 500 , 345 , 300 , 250 , 200 , 150 , 100.