prac-5-heap-sort-priority-queue-1

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```python
[1]:  # PRACTICAL 5.1 HEAP SORT
      def heapify(array, a, b):
        max = b
        l = 2 * b + 1
        root = 2 * b + 2
        if l < a and array[b] < array[l]:
          max = l
        if root < a and array[max] < array[root]:
          max = root
              # Change root if it is not max
        if max != b:
          array[b], array[max] = array[max], array[b]
          heapify(array, a, max)
      # sort an array of given size
      def Heap_Sort(array):
              a = len(array)
              # maxheap..
              for b in range(a // 2 - 1, -1, -1):
                      heapify(array, a, b)
              # extract elements
              for b in range(a-1, 0, -1):
                      array[b], array[0] = array[0], array[b] # swap
                      heapify(array, b, 0)
```

```python
[2]:  # Test Code for checking Heap Sort Algorihtm
      array = [ 7, 2, 5, 6, 3, 1, 8, 4]
      print("The original array is: ", array)
      Heap_Sort(array)
      a = len(array)
      print ("Array after sorting is: ", array)
```

```
The original array is:  [7, 2, 5, 6, 3, 1, 8, 4]
Array after sorting is:  [1, 2, 3, 4, 5, 6, 7, 8]
```

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[ ]:
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