

Sample Input:

20

802 327 219 415 648 783 250 891 232 822 604 123 138 505 883 224 86 681 51 310

Sample Output:

Original array:

802 327 219 415 648 783 250 891 232 822 604 123 138 505 883 224 86 681 51 310

After heapify:

891 822 883 681 802 783 505 415 327 648 604 123 138 219 250 224 86 232 51 310

Before increasing key: (this line is optional)

891 822 883 681 802 783 505 415 327 648 604 123 138 219 250 224 86 232 51 310

Increasing key: heapIncreaseKey(A, 9, 892); [heapIncreaseKey(A, 3, 532) is not valid, arr[3] > 532]

891 822 883 681 802 783 505 415 892 648 604 123 138 219 250 224 86 232 51 310

After Increasing key:

892 891 883 822 802 783 505 415 681 648 604 123 138 219 250 224 86 232 51 310

The array before inserting the key: (this line is optional)

892 891 883 822 802 783 505 415 681 648 604 123 138 219 250 224 86 232 51 310

Inserting the key : maxheapInsert (A, 900);

892 891 883 822 802 783 505 415 681 648 604 123 138 219 250 224 86 232 51 310 900

After inserting the key:

900 892 883 822 891 783 505 415 681 802 604 123 138 219 250 224 86 232 51 310 648

Extracting the maximum value: 900

The heap sorted array is:

51 86 123 138 219 224 232 250 310 415 505 604 648 681 783 802 822 883 891 892 900