

# Computer Science 3A - CSC3A10

## Bottom Up Heap Construction

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## 1 Bottom Up Heap Construction

- Example 1
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# Bottom Up Heap Construction

The steps include:

- 1 Partition sequence
- 2 Build first two bottom layers
- 3 Restore heap order across mini heaps
- 4 Add next layer above
- 5 Repeat steps 3 and 4 until the root is done

# Example 1

Illustrate the execution of the bottom-up construction of a heap on the following sequence. You only need to provide a graphic representation of the heap at each stage in the construction, including any intermediate operations.

35, 45, 18, 15, 19, 37, 12

## Example 2

Illustrate the execution of the bottom-up construction of a heap on the following sequence. You only need to provide a graphic representation of the heap at each stage in the construction, including any intermediate operations.

4, 6, 1, 10, 7, 57, 43, 23, 15, 9, 8, 32, 2, 35, 36

## Example 3

Illustrate the execution of the bottom-up construction of a heap on the following sequence. You only need to provide a graphic representation of the heap at each stage in the construction, including any intermediate operations.

24, 35, 3, 26, 42, 19, 1, 28, 20, 44, 31, 16, 29, 33