

Lab classes - 10

In the lab-classes we experiment with *binary heaps*.

1. You investigate binary heaps and HEAP-SORT.
2. For this the program `Heap.java` is to be investigated.

1 Understanding the implementation

Look into `Heap.java`.

1. How can we construct a binary heap?
2. What is `heap_property`?
3. There are two methods which change the size n —
4. Identify the examples from the lecture in the `main`

2 Running an example

Consider the sequence

20, 0, 26, 33, 4, 15, 7, 27, 2, 1, 33, 25, 0, 30, 21, 10, 5.

1. Build a binary heap from that sequence, first on paper, and then check via the implementation.
2. Now run HEAP-SORT on that sequence, computing one after another all the binary heaps which are created on the way (as we had it in the example from the lecture). After you did this on paper, modify the code so that it prints out this sequence of heaps.