Heap Level

(Adjusted from CP Data Structure Quiz)

We have a priority queue which is implemented from binary heap. We want to create a new method so that this method will return all elements in the binary heap at a specific level.

We define that the node is in level k if and only if that node is far away from root node for k links. From this definition, the root node will be in level 0 and the children of the root node are in level 1.

In class **Heap**, implement method:

```
public int[] atLevel(int k)
```

This method returns an array of all elements in level k of the binary heap. The element in the array must be arranged with the same as arranging in mData. In the other meaning, if the element appear first in mData, it should also appear first in returning array ("appear first" means having lower index). It is possible that k will specify the level that does not have any element, return empty array for this case.

Guarantee that k is between 0 and 100 (inclusive).

Limitation

- Try not to use methods **pop()** and **push()**.
- You should not create new heap objects or create any class.