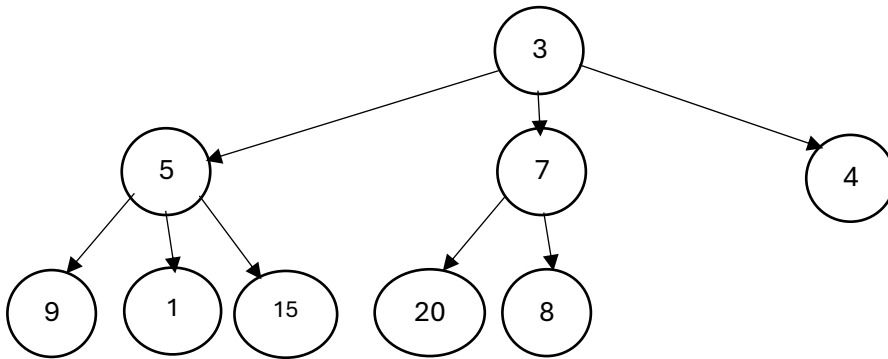


(11 marks) A ternary min heap is a min heap where each node has at most 3 children. All properties are the same as a normal min heap. Its complete tree is filled from left to right at each level. It also has an array representation. An example is shown below:



The array representation is:

3	5	7	4	9	10	15	20	8
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You are given the code for class Heap, a binary min heap (implemented using array). **Write a class TernaryHeap:**

- The class TernaryHeap has all the variables and methods from class Heap.
- Make modifications to all necessary places so that Ternary heap works.
- Test cases are in TestHeap.java. The score for each test is in the code's comment.
- Hint: For position i
 - the position of its parent node is $(i-1)/3$
 - the position of its child nodes are $3*i+1$, $3*i+2$, $3*i+3$
- Submit ONLY **TernaryHeap.java**