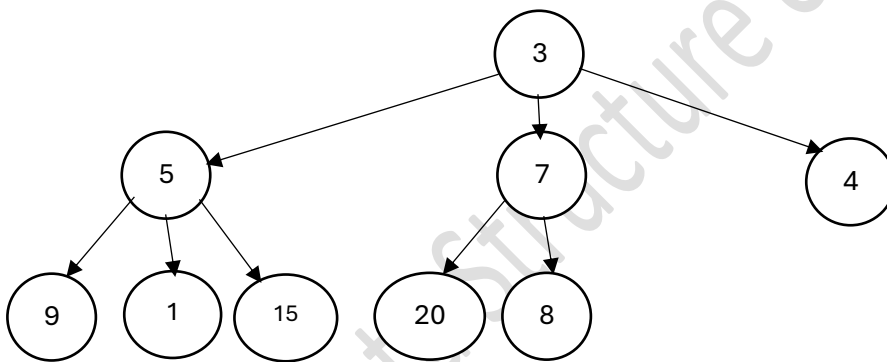


- Don't forget to set your Eclipse workspace and working set.
- You must submit the JAR file, exported (with source code), from your Eclipse project.
- You must check your JAR file to make sure all the source files (.java files) are present. It can be opened with file compression programs such as 7-zip or Winrar.
- Failure to export properly will result in your work not getting marked.

To submit:

- Export your project to a JAR file, with source code.
- Name your JAR file ID_Week15_Q2.jar. For example, 6623110021_Week15_Q2.jar
- Submit the JAR file on MyCourseville.

(11 marks, will be scaled to equal to other homeworks) 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
---	---	---	---	---	----	----	----	---

You are given the code for class Heap, a binary min heap (implemented using array). **Write a class TernaryHeap (you need to create it as a new .java file):**

- 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 $3*i+1$, $3*i+2$, $3*i+3$
- Modify **only TernaryHeap.java**, or you will get 0 mark.