Assignment 4 - Recursive Forum Posts

Each message in an on-line forum is captured with a unique message ID, a parent ID, and the text of the message. The parent ID is the message ID of another message to which a message is replying (see Figure 1). The first message will have a parent ID of 0, indicating that it is not replying to any message (i.e., it is a new discussion). **There could be more than one discussion in a forum!**
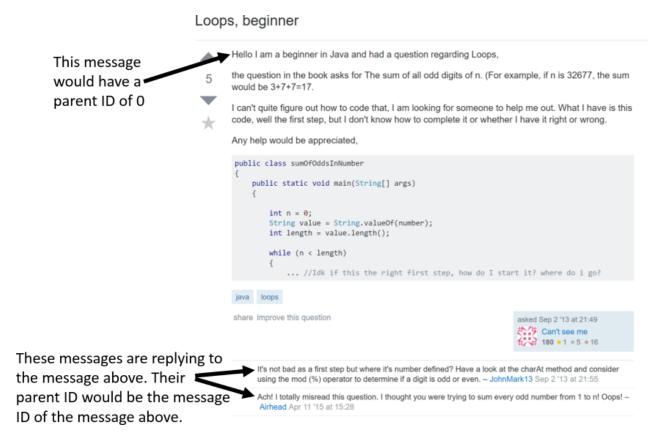

Figure 1: Forum post example from StackOverflow.com

All messages are stored in a file in the following format:

messageID|parentID|text

where each message is on a separate line and the pipe (|) is a delimiter separating the fields.

Task

Note: All classes written for this assignment must include Java documentation comments.

(1) Create an appropriate class or set of classes to encapsulate the messages (e.g., a `Message` class)

(2) Create an application (i.e., a class with a main in it, right?) where the messages are read in from a file named **"msg.txt"** and displayed in a nesting hierarchical structure that shows the relationship of the messages (i.e., each reply is displayed on a separate line, indented by 2 white spaces relative to the message being replied to)

Remember to document your code using Javadoc comments.

Sample

Given the following "msg.txt" contents:

```
1|0|Here's how you make the best slow cooker post roast you'll ever have!
Take 3-4 lbs of pot roast, 2 tbsp olive oil, 1 packet brown gravy mix, 1
packet italian dressing mix, 1 can Guiness beer (yeah baby!), 2 tbsp tomato
paste, 3 carrots, peeled and sliced, and 3 yukon gold potatoes, peeled and
diced.  Heat oil in a large skillet over medium-high heat, add the roast and
brown on all sides (like 2 mins/side).  Put it and all the rest of the stuff
in a slow cooker.  Put it on low for like 8 or 10 hours.
2|1|This was the best!  It was so flavorful!
3|2|Yeah it was flavorful...  if you have no tastebuds!
4|1|Anyone no if can use Miller Lite instead
5|0|How to boil water.  Put water in pot.  Turn to high heat.  DO NOT WATCH
THE POT.
```

The following output is produced:

Message #1: Here's how you make the best slow cooker post roast you'll ever have! Take 3-4 lbs of pot roast, 2 tbsp olive oil, 1 packet brown gravy mix, 1 packet italian dressing mix, 1 can Guiness beer (yeah baby!), 2 tbsp tomato paste, 3 carrots, peeled and sliced, and 3 yukon gold potatoes, peeled and diced. Heat oil in a large skillet over medium-high heat, add the roast and brown on all sides (like 2 mins/side). Put it and all the rest of the stuff in a slow cooker. Put it on low for like 8 or 10 hours.

   Message #2: This was the best! It was so flavorful!

      Message #3: Yeah it was flavorful... if you have no tastebuds!

   Message #4: Anyone no if can use Miller Lite instead

Message #5: How to boil water. Put water in pot. Turn to high heat. DO NOT WATCH THE POT.

*This is a very short and simple example. It is **JUST AN EXAMPLE**. Your application should be able to handle any number of messages.*

Deliverable

Test your application (you can use the contents above if you like or make up your own!) and take a screenshot of a successful test.

Submit your Java source files and screenshot to the appropriate dropbox.