**IssueTracker – Additional Requirements**

**Problem Description:**

IssueTracker application has functionalities like Report an issue, Update status, Show issues and Delete issues. These functionalities are now implemented using ReportThread, UpdateThread, ShowThread and DeleteThread respectively. The threads are already implemented. The additional requirements are as follows:

1. Creation of Threads for concurrent Execution:

* Create a new ExecutorService object with fixed number of threads.

[Hint: Use *newFixedThreadPool* method of Executors. The number of threads should be equal to the number of methods (reportAnIssue(), updateStatus(), showIssues(), deleteIssues())]

* Create an object of each of the threads (ShowThread, UpdateThread, DeleteThread, ReportThread) and execute each of them with the help of ExecutorService object
* Invoke shutdown() method of ExecutorService after execution of the threads.

1. Thread Synchronization:

* The requirement is to synchronize the thread execution to prevent overlapping of the methods.

[Hint: Use *synchronized* keyword in IssueServiceImpl class methods]

[Note: All the methods (reportAnIssue(), updateStatus(), showIssues(), deleteIssues()) should get executed, irrespective of the order of execution]

1. Comment on why we need to use synchronized keyword, based on the output of both requirements.