

Solution 1a:

```
SELECT *  
FROM listings  
WHERE category = "Book Stores"  
      AND city = "Glendale"  
      AND state = "CA"
```

Solution 2a, 2b, 2c: Please refer to [ListOfHash.java](#) and [ListOfHashTest.java](#)

Solution 3: To check the local System Resources we use 'top' command.

Solution 4: **CI** stands for *Continuous Integration*, and **TDD** stands for *Test Driven Development*. Developers that use TDD tend to complete tasks more quickly, have fewer defects, and deliver completed code that can be enhanced and changed more easily than developers using more linear "traditional" approach. CI enables multiple check-ins in a day and thus multiple builds. We can run test cases on the builds and identify the errors if any at each step. Thus by practicing CI and TDD, at each step we can identify if the development of the product is at the right track, and we can also make amendments easily and other dependent teams can also integrate easily.

Solution 5: Following are the conditions under which we should invest on automating a test:

- Number of times a test will be run. For example - If the test needs to be run only once, its better to do it manually.
- We must also keep in mind about the lifetime of the test case. For example, if we are in the initial stage of development and the decision regarding design a workflow is still tentative, we should test it manually until its final.
- How many additional bugs it could find, apart from the first time it ran.

Solution 6: Once the testing phase starts, a tester might come across many bugs. When a bug is found a tester must try to reproduce it couple of times and also try to find related bugs. Once all these tasks are done. A consolidated report should be presented which shows the bug's frequency of occurrence, related bugs, impact on business. All these factors decide the priority of the bug and help both the developers and the product managers.