**Sunny Ka Patel**

**SDK438**

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**CMPT 280.A5.Q2.E**

**(1)**

|  |  |  |
| --- | --- | --- |
| **Filename** | **Avg. Queries for hashQuestLog** | **Avg. Queries for treeQuestLog** |
| **quests4.csv** | **1.25** | **2.0** |
| **quests16.csv** | **1.125** | **4.0** |
| **quests250.csv** | **1.232** | **13.34** |
| **quests1000.csv** | **2.148** | **18.08** |
| **quests100000.csv** | **1.45367** | **30.8778** |

**(2) log(n)**

**(3) log(n6)**

**(4) For displaying all of the quests in alphabetical order, I would prefer the tree quest log because the toString() method in the tree quest log traverses over the tree in in-order pattern which is more efficient instead of the toString() in the hash quest log which first going over the hash table to get all the keys, sorting the keys and then finally going over all the keys to get the data.**

**(5) If we were to periodically look up the details of specific quests in no particular order then I would prefer the hash quest log because we can just pass in the quest’s name and get its details rather than looking up in the tree quest log where we might end up searching the entire tree for the quest.**