BLG 335E

Analysis

of

Algoritms 1

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Homework 4

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1. The main reason we use hash tables as a data structure in our problems is speed. This advantage is much more apparent when we are working with large data sets. Hash tables are more effective when the number of entries predicted in advance.
2. Main application of hash table is for rapid data lookup. Hashing functions are used to accelerate table and database lookup by detecting duplicated records in a large file.
3. For this project, the size of the hashing array is selected as 2477. The collusions of the hashing functions are shown in the table below;

|  |  |  |
| --- | --- | --- |
| **Linear** | **Double** | **Quadratic** |
| 7452 | 3122 | 3525 |

The quadratic and double hashing functions are more likely to hit an empty slot and stop searching. Since they have less cluster formation the average number of the probes that are required will be less.