**Project Evaluation:**

The project completion took quite a bit less with both people working on it than I originally anticipated

**Test Results:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | | | **Linear Probe** | **Double Hashing** | **Chained Hashing** |
| **Load Factor 0.25 (19997)** | **Run 1** | **Actual** | 1.0432 | 1.0096 | 1.0552 |
| **Knuth** | 1.1667 | 1.15076 | 1.12502 |
| **** | -0.1235 | -0.14116 | -0.06982 |
| **Run 2** | **Actual** | 1.0424 | 1.006 | 1.0608 |
| **Knuth** | 1.1667 | 1.15076 | 1.12502 |
| **** | -0.1243 | -0.14476 | -0.06422 |
| **Run 3** | **Actual** | 1.0428 | 1.008 | 1.0616 |
| **Knuth** | 1.1667 | 1.15076 | 1.12502 |
| **** | -0.1239 | -0.14276 | -0.06342 |
| **Run 4** | **Actual** | 1.7192 | 1.71 | 1.06 |
| **Knuth** | 1.1667 | 1.15076 | 1.12502 |
| **** | 0.5525 | 0.55924 | -0.06502 |
| **Run 5** | **Actual** | 1.0392 | 1.0056 | 1.0632 |
| **Knuth** | 1.1667 | 1.15076 | 1.12502 |
| **** | -0.1275 | -0.14516 | -0.06182 |
|  |  |  |  |  |  |
|  | | | **Linear Probe** | **Double Hashing** | **Chained Hashing** |
| **Load Factor 0.5 (10007)** | **Run 1** | **Actual** | 1.6704 | 1.6468 | 1.1572 |
| **Knuth** | 1.4993 | 1.38587 | 1.24983 |
| **** | 0.1711 | 0.26093 | -0.09263 |
| **Run 2** | **Actual** | 1.1488 | 1.138 | 1.1528 |
| **Knuth** | 1.4993 | 1.38587 | 1.24983 |
| **** | -0.3505 | -0.24787 | -0.09703 |
| **Run 3** | **Actual** | 2.1884 | 1.6412 | 1.1708 |
| **Knuth** | 1.4993 | 1.38587 | 1.24983 |
| **** | 0.6891 | 0.25533 | -0.07903 |
| **Run 4** | **Actual** | 1.1716 | 1.128 | 1.1632 |
| **Knuth** | 1.4993 | 1.38587 | 1.24983 |
| **** | -0.3277 | -0.25787 | -0.08663 |
| **Run 5** | **Actual** | 1.6516 | 1.6512 | 1.1572 |
| **Knuth** | 1.4993 | 1.38587 | 1.24983 |
| **** | 0.1523 | 0.26533 | -0.09263 |
|  |  |  |  |  |  |
|  | | | **Linear Probe** | **Double Hashing** | **Chained Hashing** |
| **Load Factor 0.714 (7001)** | **Run 1** | **Actual** | 2.95 | 2.4948 | 1.2648 |
| **Knuth** | 2.24938 | 1.75362 | 1.35709 |
| **** | 0.70062 | 0.74118 | -0.09229 |
| **Run 2** | **Actual** | 2.0776 | 2.2888 | 1.266 |
| **Knuth** | 2.24938 | 1.75362 | 1.35709 |
| **** | -0.17178 | 0.53518 | -0.09109 |
| **Run 3** | **Actual** | 3.1332 | 2.0328 | 1.2788 |
| **Knuth** | 2.24938 | 1.75362 | 1.35709 |
| **** | 0.88382 | 0.27918 | -0.07829 |
| **Run 4** | **Actual** | 2.2244 | 1.6748 | 1.2832 |
| **Knuth** | 2.24938 | 1.75362 | 1.35709 |
| **** | -0.02498 | -0.07882 | -0.07389 |
| **Run 5** | **Actual** | 2.26 | 4.904 | 1.2732 |
| **Knuth** | 2.24938 | 1.75362 | 1.35709 |
| **** | 0.01062 | 3.15038 | -0.08389 |