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Offline-07

Hashing and HashTable

(CSE-208)

**Report on various table size:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Hash Table Size Input** | **Collision Resolution**  **Method** | **Hash#1**  **(polynomial roll hash)** | | **Hash#2**  **(power hash)** | |
| # of Collisions | Average Probes | # of Collisions | Average Probes |
| 5000 | Chaining Method | 2864 | 1.273 | 2849 | 1.271 |
| Double Hashing | 5641 | 1.361 | 5547 | 1.33 |
| Custom Probing | 5672 | 1.381 | 5653 | 1.367 |
| 10000 | Chaining Method | 2625 | 1.273 | 2617 | 1.271 |
| Double Hashing | 5144 | 1.345 | 5024 | 1.364 |
| Custom Probing | 4950 | 1.367 | 5012 | 1.362 |
| 20000 | Chaining Method | 2173 | 1.239 | 2132 | 1.206 |
| Double Hashing | 3936 | 1.354 | 3782 | 1.354 |
| Custom Probing | 3954 | 1.433 | 3874 | 1.403 |

**Auxiliury hash function:(Using the hash value by subtracting some number from previous prime)**

 ul auxHashFunc(string s)

    {

        ul hash\_value = 0;

        for (int i = 0; i < s.size(); i++)

        {

            hash\_value += int(s[i]);

        }

        hash\_value = primebefore - (hash\_value % primebefore);

        return hash\_value;

    }