

CSE 208: Data Structures and Algorithms

Sessional-II

Offline: Hashing

Report By,

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Collision Resolution method	Hash1		Hash2	
	Number of collisions	Average probes	Number of collisions	Average probes
Chaining Method	3684	1.458	3628	1.5
Double Hashing	57439	5.079	62885	7.885
Custom Hashing	61126	5.3	60249	5.399

Table: Performance of various techniques for collisions resolution with two different hash functions. (Data generated for 10000 randomly generated strings).

```

C++ linked_list.cpp U  C++ offline.cpp U x  C++ hash_table.cpp U  ▶ 🔍 □ ...  PROBLEMS  OUTPUT  TERMINAL  ...
w8-hashing > C++ offline.cpp > printResult(const string &, HashTable &, vector<pair<string,int>> &)
60     HashTable h1(n, HashTable::HASH1, HashTable::SEPARATE_CHA
61     HashTable h2(n, HashTable::HASH2, HashTable::SEPARATE_CHA
62
63     HashTable h3(n, HashTable::HASH1, HashTable::DOUBLE_HASHI
64     HashTable h4(n, HashTable::HASH2, HashTable::DOUBLE_HASHI
65
66     HashTable h5(n, HashTable::HASH1, HashTable::CUSTOM_PROBI
67     HashTable h6(n, HashTable::HASH2, HashTable::CUSTOM_PROBI
68
69     int i = 1;
70     for(string s: v){
71         h1.insert(s, i);
72         h2.insert(s, i);
73         h3.insert(s, i);
74         h4.insert(s, i);
75         h5.insert(s, i);
76         h6.insert(s, i);
77         vv.push_back({s, i++});
78     }
79
80     printResult("Chaining method(hash1)", h1, vv);
81     printResult("Chaining method(hash2)", h2, vv);
82
83     printResult("Double Hashing(hash1)", h3, vv);
84     printResult("Double Hashing(hash2)", h4, vv);
85
86     printResult("Custom Probing(hash1)", h5, vv);
87     printResult("Custom Probing(hash2)", h6, vv);
88     // h.printSC();
89 }

int HashTable::deleteByProbing(std::
__cxx11::string, int)':
hash_table.cpp:256:1: warning: no re
turn statement in function returning
non-void [-Wreturn-type]
}
^
total string: 10000
Chaining method(hash1)
Collisions: 3684
Avg Probes: 1.458

Chaining method(hash2)
Collisions: 3628
Avg Probes: 1.5

Double Hashing(hash1)
Collisions: 57439
Avg Probes: 5.079

Double Hashing(hash2)
Collisions: 62805
Avg Probes: 7.855

Custom Probing(hash1)
Collisions: 61126
Avg Probes: 5.3

Custom Probing(hash2)
Collisions: 60249
Avg Probes: 5.399

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ional\CSE208-DSA-II-codes\w8-hashing
>
```