

```
1  /*****
2  * AUTHOR          : Nick Reardon
3  * Assignment #7   : Hashing Algorithms
4  * CLASS           : CS1D
5  * SECTION         : MW - 2:30p
6  * DUE DATE        : 03 / 04 / 20
7  *****/
8  #include "main.h"
9  using std::cout; using std::endl;
10
11
12  int main()
13  {
14
15      /*
16       * HEADER OUTPUT
17       */
18      PrintHeader(cout, "Prompt.txt");
19
20      /*****/
21
22      DoubleHashMap<int, std::string> doubleHash(29);
23
24
25      cout << endl << "    --- Double Hash Map ---" << endl << endl;
26
27      doubleHash.insert(make_struct(18, std::string("San Clamente")));
28      doubleHash.insert(make_struct(41, std::string("Mission Viejo")));
29      doubleHash.insert(make_struct(22, std::string("Laguna Niguel")));
30      doubleHash.insert(make_struct(44, std::string("Irvine")));
31
32      //doubleHash.printAll(cout);
33
34      //DELETE KEY 18
35      doubleHash.remove(18);
36
37
38      doubleHash.insert(make_struct(58, std::string("Lake Forest")));
39      doubleHash.insert(make_struct(32, std::string("San Diego")));
40      doubleHash.insert(make_struct(49, std::string("Anaheim")));
41
42      //doubleHash.printAll(cout);
43
44      //DELETE KEY 58
45      doubleHash.remove(58);
46
47
48      doubleHash.insert(make_struct(31, std::string("Los Angeles")));
49      doubleHash.insert(make_struct(17, std::string("Orange")));
50      doubleHash.insert(make_struct(72, std::string("Palms Springs")));
51      doubleHash.insert(make_struct(41, std::string("Riverside")));
52
```

```
53     //doubleHash.printAll(cout);
54
55     //DELETE KEY 49
56     doubleHash.remove(49);
57
58
59     doubleHash.insert(make_struct(19, std::string("Brea")));
60     doubleHash.insert(make_struct(60, std::string("Santa Ana")));
61     doubleHash.insert(make_struct(35, std::string("Tustin")));
62     doubleHash.insert(make_struct(103, std::string("Oceanside")));
63     doubleHash.insert(make_struct(11, std::string("La Jolla")));
64     doubleHash.insert(make_struct(18, std::string("Del Mar")));
65     doubleHash.insert(make_struct(22, std::string("Aliso Viejo")));
66     doubleHash.insert(make_struct(49, std::string("Laguna Beach")));
67
68     //doubleHash.printAll(cout);
69
70     //DELETE KEY 41
71     doubleHash.remove(41);
72
73
74     doubleHash.insert(make_struct(42, std::string("Vista")));
75     doubleHash.insert(make_struct(49, std::string("San Diego")));
76     doubleHash.insert(make_struct(99, std::string("San Juan")));
77     doubleHash.insert(make_struct(29, std::string("Dana Point")));
78     doubleHash.insert(make_struct(88, std::string("El Segundo")));
79     doubleHash.insert(make_struct(41, std::string("San Clemente")));
80     doubleHash.insert(make_struct(62, std::string("Laguna Hills")));
81
82     doubleHash.printAll(cout);
83
84
85     cout << endl << endl
86         << std::string(70, '_') << endl
87         << std::string(70, '_') << endl
88         << std::string(70, '_') << endl
89         << endl;
90
91
92     cout << endl << "    --- Quadratic Hash Map ---" << endl << endl;
93
94
95     QuadraticHashMap<int, std::string > quadHash(29);
96
97     quadHash.insert(make_struct(18, std::string("San Clamente")));
98     quadHash.insert(make_struct(41, std::string("Mission Viejo")));
99     quadHash.insert(make_struct(22, std::string("Laguna Niguel")));
100    quadHash.insert(make_struct(44, std::string("Irvine")));
101
102    //quadHash.printAll(cout);
103
104    //DELETE KEY 18
```

```
105     quadHash.remove(18);
106
107     //quadHash.printAll(cout);
108
109     quadHash.insert(make_struct(58, std::string("Lake Forest")));
110     quadHash.insert(make_struct(32, std::string("San Diego")));
111     quadHash.insert(make_struct(49, std::string("Anaheim")));
112
113     //quadHash.printAll(cout);
114
115     //DELETE KEY 58
116     quadHash.remove(58);
117
118     //quadHash.printAll(cout);
119
120     quadHash.insert(make_struct(31, std::string("Los Angeles")));
121     quadHash.insert(make_struct(17, std::string("Orange")));
122     quadHash.insert(make_struct(72, std::string("Palms Springs")));
123     quadHash.insert(make_struct(41, std::string("Riverside")));
124
125     //quadHash.printAll(cout);
126
127     //DELETE KEY 49
128     quadHash.remove(49);
129
130     //quadHash.printAll(cout);
131
132     quadHash.insert(make_struct(19, std::string("Brea")));
133     quadHash.insert(make_struct(60, std::string("Santa Ana")));
134     quadHash.insert(make_struct(35, std::string("Tustin")));
135     quadHash.insert(make_struct(103, std::string("Oceanside")));
136     quadHash.insert(make_struct(11, std::string("La Jolla")));
137     quadHash.insert(make_struct(18, std::string("Del Mar")));
138     quadHash.insert(make_struct(22, std::string("Aliso Viejo")));
139     quadHash.insert(make_struct(49, std::string("Laguna Beach")));
140
141     //quadHash.printAll(cout);
142
143     //DELETE KEY 41
144     quadHash.remove(41);
145
146     //quadHash.printAll(cout);
147
148     quadHash.insert(make_struct(42, std::string("Vista")));
149     quadHash.insert(make_struct(49, std::string("San Diego")));
150     quadHash.insert(make_struct(99, std::string("San Juan")));
151     quadHash.insert(make_struct(29, std::string("Dana Point")));
152     quadHash.insert(make_struct(88, std::string("El Segundo")));
153     quadHash.insert(make_struct(41, std::string("San Clemente")));
154     quadHash.insert(make_struct(62, std::string("Laguna Hills")));
155
156     quadHash.printAll(cout);
```

```
157  
158     system("pause");  
159     return 0;  
160 }
```