

Enter the input filename: **HW5TestInput2.txt**

Inserted into HashSC: 72.30.214, 481ed6
Inserted into HashQP: 72.30.214, 481ed6
Inserted into HashSC: 72.30.215, 481ed7
Inserted into HashQP: 72.30.215, 481ed7
Inserted into HashSC: 72.30.216, 481ed8
Inserted into HashQP: 72.30.216, 481ed8
Inserted into HashSC: 72.30.221, 481edd
Inserted into HashQP: 72.30.221, 481edd
Inserted into HashSC: 72.30.226, 481ee2
Inserted into HashQP: 72.30.226, 481ee2
Inserted into HashSC: 72.30.252, 481efc
Inserted into HashQP: 72.30.252, 481efc
Inserted into HashSC: 72.30.54, 481e36
Inserted into HashQP: 72.30.54, 481e36
Inserted into HashSC: 72.30.56, 481e38
Inserted into HashQP: 72.30.56, 481e38
Inserted into HashSC: 72.30.60, 481e3c
Inserted into HashQP: 72.30.60, 481e3c
Inserted into HashSC: 72.30.61, 481e3d
Inserted into HashQP: 72.30.61, 481e3d
Inserted into HashSC: 72.30.8.1, 481e0801
Inserted into HashQP: 72.30.8.1, 481e0801
Inserted into HashSC: 72.30.87, 481e57
Inserted into HashQP: 72.30.87, 481e57
Inserted into HashSC: 72.30.9, 481e09
Inserted into HashQP: 72.30.9, 481e09
Inserted into HashSC: 72.30.97, 481e61
Inserted into HashQP: 72.30.97, 481e61
Inserted into HashSC: 72.30.98, 481e62
Inserted into HashQP: 72.30.98, 481e62
Inserted into HashSC: 72.30.99, 481e63
Inserted into HashQP: 72.30.99, 481e63
Inserted into HashSC: 74.6.131, 4a0683
Inserted into HashQP: 74.6.131, 4a0683
Inserted into HashSC: 74.6.17, 4a0611
Inserted into HashQP: 74.6.17, 4a0611
Inserted into HashSC: 74.6.18, 4a0612
Inserted into HashQP: 74.6.18, 4a0612
Inserted into HashSC: 7.4.6.19, 7040613
Inserted into HashQP: 7.4.6.19, 7040613
Inserted into HashSC: 74.6.20, 4a0614
Inserted into HashQP: 74.6.20, 4a0614
Inserted into HashSC: 74.6.21, 4a0615
Inserted into HashQP: 74.6.21, 4a0615
Inserted into HashSC: 74.6.22, 4a0616
Inserted into HashQP: 74.6.22, 4a0616
Inserted into HashSC: 74.6.23, 4a0617
Inserted into HashQP: 74.6.23, 4a0617
Inserted into HashSC: 74.6.24, 4a0618
Inserted into HashQP: 74.6.24, 4a0618
Inserted into HashSC: 74.6.240, 4a06f0
Inserted into HashQP: 74.6.240, 4a06f0
Inserted into HashSC: 74.6.25, 4a0619
Inserted into HashQP: 74.6.25, 4a0619
Inserted into HashSC: 74.6.26, 4a061a
Inserted into HashQP: 74.6.26, 4a061a
Inserted into HashSC: 74.6.27, 4a061b

Inserted into HashQP: 74.6.27, 4a061b
Inserted into HashSC: 74.6.28, 4a061c
Inserted into HashQP: 74.6.28, 4a061c
Inserted into HashSC: 74.6.29, 4a061d
Inserted into HashQP: 74.6.29, 4a061d
Inserted into HashSC: 74.6.31, 4a061f
Inserted into HashQP: 74.6.31, 4a061f
Inserted into HashSC: 74.6.65, 4a0641
Inserted into HashQP: 74.6.65, 4a0641
Inserted into HashSC: 74.6.66, 4a0642
Inserted into HashQP: 74.6.66, 4a0642
Inserted into HashSC: 74.6.67, 4a0643
Inserted into HashQP: 74.6.67, 4a0643
Inserted into HashSC: 74.6.68, 4a0644
Inserted into HashQP: 74.6.68, 4a0644
Inserted into HashSC: 74.6.69, 4a0645
Inserted into HashQP: 74.6.69, 4a0645
Inserted into HashSC: 74.6.7, 4a0607
Inserted into HashQP: 74.6.7, 4a0607
Inserted into HashSC: 74.6.70, 4a0646
Inserted into HashQP: 74.6.70, 4a0646
Inserted into HashSC: 74.6.71, 4a0647
Inserted into HashQP: 74.6.71, 4a0647
Inserted into HashSC: 74.6.72, 4a0648
Inserted into HashQP: 74.6.72, 4a0648
Inserted into HashSC: 74.6.73, 4a0649
Inserted into HashQP: 74.6.73, 4a0649
Inserted into HashSC: 74.6.74, 4a064a
Inserted into HashQP: 74.6.74, 4a064a
Inserted into HashSC: 74.6.75, 4a064b
Inserted into HashQP: 74.6.75, 4a064b
Inserted into HashSC: 74.6.76, 4a064c
Inserted into HashQP: 74.6.76, 4a064c
Inserted into HashSC: 74.6.79, 4a064f
Inserted into HashQP: 74.6.79, 4a064f
Inserted into HashSC: 74.6.8, 4a0608
Inserted into HashQP: 74.6.8, 4a0608
Inserted into HashSC: 74.6.85, 4a0655
Inserted into HashQP: 74.6.85, 4a0655
Inserted into HashSC: 74.6.86, 4a0656
Inserted into HashQP: 74.6.86, 4a0656
Inserted into HashSC: 74.6.87, 4a0657
Inserted into HashQP: 74.6.87, 4a0657

Contents of HashSC with the IpValue key:

0:
1: 72.30.54, 481e36
2:
3: 72.30.56, 481e38
4: 74.6.65, 4a0641
5: 72.30.252, 481efc -> 74.6.66, 4a0642
6: 74.6.67, 4a0643
7: 72.30.60, 481e3c -> 74.6.68, 4a0644
8: 72.30.61, 481e3d -> 74.6.69, 4a0645
9: 74.6.70, 4a0646
10: 74.6.71, 4a0647
11: 74.6.72, 4a0648
12: 74.6.73, 4a0649

13: 74.6.74, 4a064a
14: 74.6.75, 4a064b
15: 74.6.76, 4a064c
16:
17:
18: 74.6.79, 4a064f
19:
20:
21:
22:
23:
24: 72.30.8.1, 481e0801 -> 74.6.85, 4a0655
25: 74.6.86, 4a0656
26: 74.6.87, 4a0657
27:
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34: 72.30.87, 481e57
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41:
42:
43: 74.6.7, 4a0607
44: 72.30.97, 481e61 -> 74.6.8, 4a0608
45: 72.30.98, 481e62
46: 72.30.99, 481e63 -> 7.4.6.19, 7040613
47:
48:
49:
50:
51:
52:
53: 72.30.9, 481e09 -> 74.6.17, 4a0611
54: 74.6.18, 4a0612
55:
56: 74.6.20, 4a0614
57: 74.6.21, 4a0615
58: 74.6.22, 4a0616
59: 74.6.23, 4a0617
60: 74.6.24, 4a0618
61: 74.6.25, 4a0619
62: 74.6.26, 4a061a
63: 74.6.27, 4a061b
64: 72.30.214, 481ed6 -> 74.6.28, 4a061c
65: 72.30.215, 481ed7 -> 74.6.29, 4a061d
66: 72.30.216, 481ed8
67: 74.6.31, 4a061f
68:
69:
70: 74.6.131, 4a0683

71: 72.30.221, 481edd
72:
73:
74:
75:
76: 72.30.226, 481ee2
77:
78:
79:
80:
81:
82: 74.6.240, 4a06f0
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In the HashSC object:

Table Size = 97
Number of entries = 50
Load factor = 0.5154639175257731
Number of collisions = 9
Longest Linked List = 2

Contents of HashQP with the String key:

0: 72.30.97, 481e61
1: 72.30.98, 481e62
2: 72.30.99, 481e63
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46: 72.30.54, 481e36
47:
48: 72.30.56, 481e38
49:
50:
51:
52:
53:
54:
55: 74.6.65, 4a0641
56: 74.6.66, 4a0642
57: 74.6.67, 4a0643
58: 74.6.68, 4a0644
59: 74.6.69, 4a0645
60:
61:
62:
63: 72.30.252, 481efc
64:
65:
66:
67:
68:
69: 74.6.17, 4a0611
70: 74.6.18, 4a0612
71:
72:
73: 74.6.131, 4a0683
74:
75:
76:
77:
78:
79: 72.30.60, 481e3c

80: 72.30.61, 481e3d
81:
82:
83:
84:
85:
86:
87: 74.6.70, 4a0646
88: 74.6.71, 4a0647
89: 74.6.72, 4a0648
90: 74.6.73, 4a0649
91: 74.6.74, 4a064a
92: 74.6.75, 4a064b
93: 74.6.76, 4a064c
94:
95:
96: 74.6.79, 4a064f
97:
98:
99: 74.6.20, 4a0614
100: 74.6.21, 4a0615
101: 74.6.22, 4a0616
102: 74.6.23, 4a0617
103: 74.6.24, 4a0618
104: 74.6.25, 4a0619
105: 74.6.26, 4a061a
106: 74.6.27, 4a061b
107: 74.6.28, 4a061c
108: 74.6.29, 4a061d
109:
110:
111:
112:
113:
114: 72.30.214, 481ed6
115: 74.6.240, 4a06f0
116: 74.6.19, 7040613
117: 72.30.216, 481ed8
118:
119: 72.30.215, 481ed7
120:
121:
122:
123:
124:
125:
126:
127:
128:
129: 74.6.85, 4a0655
130: 74.6.86, 4a0656
131: 74.6.87, 4a0657
132:
133:
134:
135:
136:
137: 72.30.8.1, 481e0801

138: 74.6.31, 4a061f
139:
140:
141:
142:
143: 74.6.7, 4a0607
144: 74.6.8, 4a0608
145:
146:
147:
148: 72.30.221, 481edd
149:
150:
151: 72.30.9, 481e09
152:
153: 72.30.226, 481ee2
154:
155:
156:
157:
158:
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160: 72.30.87, 481e57
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In the HashQP object:

Table Size = 197
Number of entries = 50
Load factor = 0.25380710659898476
Number of collisions = 8
Longest Collision Run = 4

Testing HashSC with IpValue key:

Retrieved in HashTable, IPAddress: 74.6.87, 4a0657, now trying to delete it
The insert method for 74.6.87, 4a0657 returns false
Removed 74.6.87, 4a0657 successfully!
The contains method for Default IPAddress returns false
Didn't retrieve Default IPAddress (GOOD!)
The insert method for 0.0.0.0, 0 returns true
Removed 0.0.0.0, 0 successfully!

Testing HashQP with String key:

Retrieved in HashTable, IPAddress: 74.6.87, 4a0657, now trying to delete it
The insert method for 74.6.87, 4a0657 returns false
Removed 74.6.87, 4a0657 successfully!
The contains method for Default IPAddress returns false
Didn't retrieve Default IPAddress (GOOD!)
The insert method for 0.0.0.0, 0 returns true
Removed 0.0.0.0, 0 successfully!

Now the contents of HashSC with the IpValue key has:

0:
1: 72.30.54, 481e36
2:
3: 72.30.56, 481e38
4: 74.6.65, 4a0641
5: 72.30.252, 481efc -> 74.6.66, 4a0642
6: 74.6.67, 4a0643
7: 72.30.60, 481e3c -> 74.6.68, 4a0644
8: 72.30.61, 481e3d -> 74.6.69, 4a0645
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12: 74.6.73, 4a0649
13: 74.6.74, 4a064a
14: 74.6.75, 4a064b
15: 74.6.76, 4a064c
16:
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18: 74.6.79, 4a064f
19:
20:
21:
22:
23:
24: 72.30.8.1, 481e0801 -> 74.6.85, 4a0655
25: 74.6.86, 4a0656
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33:
34: 72.30.87, 481e57
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42:
43: 74.6.7, 4a0607
44: 72.30.97, 481e61 -> 74.6.8, 4a0608
45: 72.30.98, 481e62
46: 72.30.99, 481e63 -> 7.4.6.19, 7040613
47:
48:
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51:
52:
53: 72.30.9, 481e09 -> 74.6.17, 4a0611
54: 74.6.18, 4a0612
55:
56: 74.6.20, 4a0614
57: 74.6.21, 4a0615
58: 74.6.22, 4a0616
59: 74.6.23, 4a0617
60: 74.6.24, 4a0618
61: 74.6.25, 4a0619
62: 74.6.26, 4a061a
63: 74.6.27, 4a061b
64: 72.30.214, 481ed6 -> 74.6.28, 4a061c
65: 72.30.215, 481ed7 -> 74.6.29, 4a061d
66: 72.30.216, 481ed8
67: 74.6.31, 4a061f
68:
69:
70: 74.6.131, 4a0683
71: 72.30.221, 481edd
72:
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76: 72.30.226, 481ee2
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79:
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82: 74.6.240, 4a06f0
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Now the contents of HashQP with the String key has:

0: 72.30.97, 481e61
1: 72.30.98, 481e62
2: 72.30.99, 481e63
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46: 72.30.54, 481e36
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48: 72.30.56, 481e38
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55: 74.6.65, 4a0641
56: 74.6.66, 4a0642
57: 74.6.67, 4a0643
58: 74.6.68, 4a0644
59: 74.6.69, 4a0645
60:
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63: 72.30.252, 481efc
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69: 74.6.17, 4a0611
70: 74.6.18, 4a0612
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73: 74.6.131, 4a0683
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79: 72.30.60, 481e3c
80: 72.30.61, 481e3d
81:
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87: 74.6.70, 4a0646
88: 74.6.71, 4a0647
89: 74.6.72, 4a0648
90: 74.6.73, 4a0649
91: 74.6.74, 4a064a
92: 74.6.75, 4a064b
93: 74.6.76, 4a064c
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96: 74.6.79, 4a064f
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99: 74.6.20, 4a0614
100: 74.6.21, 4a0615
101: 74.6.22, 4a0616

102: 74.6.23, 4a0617
103: 74.6.24, 4a0618
104: 74.6.25, 4a0619
105: 74.6.26, 4a061a
106: 74.6.27, 4a061b
107: 74.6.28, 4a061c
108: 74.6.29, 4a061d
109:
110:
111:
112:
113:
114: 72.30.214, 481ed6
115: 74.6.240, 4a06f0
116: 7.4.6.19, 7040613
117: 72.30.216, 481ed8
118:
119: 72.30.215, 481ed7
120:
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129: 74.6.85, 4a0655
130: 74.6.86, 4a0656
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137: 72.30.8.1, 481e0801
138: 74.6.31, 4a061f
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143: 74.6.7, 4a0607
144: 74.6.8, 4a0608
145:
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148: 72.30.221, 481edd
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151: 72.30.9, 481e09
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153: 72.30.226, 481ee2
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