

Enter the input filename: **HW5TestInput3.txt**

Inserted into HashSC: 68.142.195.80, 448ec350
Inserted into HashQP: 68.142.195.80, 448ec350
Inserted into HashSC: 68.142.195.81, 448ec351
Inserted into HashQP: 68.142.195.81, 448ec351
Inserted into HashSC: 68.142.203.133, 448ecb85
Inserted into HashQP: 68.142.203.133, 448ecb85
Inserted into HashSC: 68.142.211.69, 448ed345
Inserted into HashQP: 68.142.211.69, 448ed345
Inserted into HashSC: 68.142.212.197, 448ed4c5
Inserted into HashQP: 68.142.212.197, 448ed4c5
Inserted into HashSC: 68.142.230.125, 448ee67d
Inserted into HashQP: 68.142.230.125, 448ee67d
Inserted into HashSC: 68.142.230.126, 448ee67e
Inserted into HashQP: 68.142.230.126, 448ee67e
Inserted into HashSC: 68.142.230.127, 448ee67f
Inserted into HashQP: 68.142.230.127, 448ee67f
Inserted into HashSC: 68.142.230.128, 448ee680
Inserted into HashQP: 68.142.230.128, 448ee680
Inserted into HashSC: 68.142.230.129, 448ee681
Inserted into HashQP: 68.142.230.129, 448ee681
Inserted into HashSC: 68.142.230.130, 448ee682
Inserted into HashQP: 68.142.230.130, 448ee682
Inserted into HashSC: 68.142.246, 448ef6
Inserted into HashQP: 68.142.246, 448ef6
Inserted into HashSC: 68.142.249, 448ef9
Inserted into HashQP: 68.142.249, 448ef9
Inserted into HashSC: 68.142.250, 448efa
Inserted into HashQP: 68.142.250, 448efa
Inserted into HashSC: 68.142.251, 448efb
Inserted into HashQP: 68.142.251, 448efb
Inserted into HashSC: 68.180.216.111, 44b4d86f
Inserted into HashQP: 68.180.216.111, 44b4d86f
Inserted into HashSC: 68.180.250, 44b4fa
Inserted into HashQP: 68.180.250, 44b4fa
Inserted into HashSC: 68.180.251, 44b4fb
Inserted into HashQP: 68.180.251, 44b4fb
Inserted into HashSC: 69.147.79.131, 45934f83
Inserted into HashQP: 69.147.79.131, 45934f83
Inserted into HashSC: 69.147.79.137, 45934f89
Inserted into HashQP: 69.147.79.137, 45934f89
Inserted into HashSC: 69.147.79.173, 45934fad
Inserted into HashQP: 69.147.79.173, 45934fad
Inserted into HashSC: 68.1.0.131, 44010083
Inserted into HashQP: 68.1.0.131, 44010083
Inserted into HashSC: 68.142.230.132, 448ee684
Inserted into HashQP: 68.142.230.132, 448ee684
Inserted into HashSC: 68.142.230.133, 448ee685
Inserted into HashQP: 68.142.230.133, 448ee685
Inserted into HashSC: 68.142.230.1, 448ee601
Inserted into HashQP: 68.142.230.1, 448ee601
Inserted into HashSC: 68.142.230.135, 448ee687
Inserted into HashQP: 68.142.230.135, 448ee687
Inserted into HashSC: 68.142.330.136, 448f4a88
Inserted into HashQP: 68.142.330.136, 448f4a88
Inserted into HashSC: 68.142.230.137, 448ee689
Inserted into HashQP: 68.142.230.137, 448ee689
Inserted into HashSC: 68.142.230.138, 448ee68a

Inserted into HashQP: 68.142.230.138, 448ee68a
Inserted into HashSC: 68.442.230.139, 45bae68b
Inserted into HashQP: 68.442.230.139, 45bae68b
Inserted into HashSC: 68.142.230.140, 448ee68c
Inserted into HashQP: 68.142.230.140, 448ee68c
Inserted into HashSC: 68.142.230.141, 448ee68d
Inserted into HashQP: 68.142.230.141, 448ee68d
Inserted into HashSC: 68.142.230.142, 448ee68e
Inserted into HashQP: 68.142.230.142, 448ee68e
Inserted into HashSC: 68.142.230.143, 448ee68f
Inserted into HashQP: 68.142.230.143, 448ee68f
Inserted into HashSC: 68.142.230.144, 448ee690
Inserted into HashQP: 68.142.230.144, 448ee690
Inserted into HashSC: 68.142.230.145, 448ee691
Inserted into HashQP: 68.142.230.145, 448ee691
Inserted into HashSC: 68.142.230.146, 448ee692
Inserted into HashQP: 68.142.230.146, 448ee692
Inserted into HashSC: 68.142.230.147, 448ee693
Inserted into HashQP: 68.142.230.147, 448ee693
Inserted into HashSC: 68.142.230.148, 448ee694
Inserted into HashQP: 68.142.230.148, 448ee694
Inserted into HashSC: 67.195.44, 43c32c
Inserted into HashQP: 67.195.44, 43c32c
Inserted into HashSC: 67.195.45, 43c32d
Inserted into HashQP: 67.195.45, 43c32d
Inserted into HashSC: 67.195.58, 43c33a
Inserted into HashQP: 67.195.58, 43c33a
Inserted into HashSC: 68.142.230.150, 448ee696
Inserted into HashQP: 68.142.230.150, 448ee696
Inserted into HashSC: 68.142.230.151, 448ee697
Inserted into HashQP: 68.142.230.151, 448ee697
Inserted into HashSC: 68.142.230.152, 448ee698
Inserted into HashQP: 68.142.230.152, 448ee698
Inserted into HashSC: 68.142.230.153, 448ee699
Inserted into HashQP: 68.142.230.153, 448ee699
Inserted into HashSC: 68.142.230.154, 448ee69a
Inserted into HashQP: 68.142.230.154, 448ee69a
Inserted into HashSC: 68.142.230.155, 448ee69b
Inserted into HashQP: 68.142.230.155, 448ee69b
Inserted into HashSC: 68.142.230.156, 448ee69c
Inserted into HashQP: 68.142.230.156, 448ee69c
Inserted into HashSC: 68.142.230.157, 448ee69d
Inserted into HashQP: 68.142.230.157, 448ee69d
Inserted into HashSC: 68.142.230.158, 448ee69e
Inserted into HashQP: 68.142.230.158, 448ee69e
Inserted into HashSC: 68.142.230.159, 448ee69f
Inserted into HashQP: 68.142.230.159, 448ee69f
Inserted into HashSC: 68.142.230.160, 448ee6a0
Inserted into HashQP: 68.142.230.160, 448ee6a0
Inserted into HashSC: 68.142.230.161, 448ee6a1
Inserted into HashQP: 68.142.230.161, 448ee6a1
Inserted into HashSC: 68.142.230.162, 448ee6a2
Inserted into HashQP: 68.142.230.162, 448ee6a2
Inserted into HashSC: 68.142.230.163, 448ee6a3
Inserted into HashQP: 68.142.230.163, 448ee6a3
Inserted into HashSC: 68.142.230.164, 448ee6a4
Inserted into HashQP: 68.142.230.164, 448ee6a4
Inserted into HashSC: 68.142.230.165, 448ee6a5

Inserted into HashQP: 68.142.230.165, 448ee6a5
Inserted into HashSC: 68.142.230.166, 448ee6a6
Inserted into HashQP: 68.142.230.166, 448ee6a6
Inserted into HashSC: 68.142.230.167, 448ee6a7
Inserted into HashQP: 68.142.230.167, 448ee6a7
Inserted into HashSC: 68.142.230.168, 448ee6a8
Inserted into HashQP: 68.142.230.168, 448ee6a8
Inserted into HashSC: 68.142.230.169, 448ee6a9
Inserted into HashQP: 68.142.230.169, 448ee6a9
Inserted into HashSC: 68.142.230.174, 448ee6ae
Inserted into HashQP: 68.142.230.174, 448ee6ae
Inserted into HashSC: 68.142.230.175, 448ee6af
Inserted into HashQP: 68.142.230.175, 448ee6af
Inserted into HashSC: 68.142.230.176, 448ee6b0
Inserted into HashQP: 68.142.230.176, 448ee6b0
Inserted into HashSC: 68.142.230.177, 448ee6b1
Inserted into HashQP: 68.142.230.177, 448ee6b1
Inserted into HashSC: 68.142.230.178, 448ee6b2
Inserted into HashQP: 68.142.230.178, 448ee6b2
Inserted into HashSC: 68.142.230.179, 448ee6b3
Inserted into HashQP: 68.142.230.179, 448ee6b3
Inserted into HashSC: 68.142.230.180, 448ee6b4
Inserted into HashQP: 68.142.230.180, 448ee6b4
Inserted into HashSC: 68.142.230.181, 448ee6b5
Inserted into HashQP: 68.142.230.181, 448ee6b5
Inserted into HashSC: 68.142.230.182, 448ee6b6
Inserted into HashQP: 68.142.230.182, 448ee6b6
Inserted into HashSC: 68.142.230.183, 448ee6b7
Inserted into HashQP: 68.142.230.183, 448ee6b7
Inserted into HashSC: 68.142.230.184, 448ee6b8
Inserted into HashQP: 68.142.230.184, 448ee6b8
Inserted into HashSC: 68.142.230.185, 448ee6b9
Inserted into HashQP: 68.142.230.185, 448ee6b9
Inserted into HashSC: 68.142.230.186, 448ee6ba
Inserted into HashQP: 68.142.230.186, 448ee6ba
Inserted into HashSC: 68.142.230.187, 448ee6bb
Inserted into HashQP: 68.142.230.187, 448ee6bb
Inserted into HashSC: 68.142.230.188, 448ee6bc
Inserted into HashQP: 68.142.230.188, 448ee6bc
Inserted into HashSC: 68.142.230.189, 448ee6bd
Inserted into HashQP: 68.142.230.189, 448ee6bd
Inserted into HashSC: 68.142.230.190, 448ee6be
Inserted into HashQP: 68.142.230.190, 448ee6be
Inserted into HashSC: 68.142.230.191, 448ee6bf
Inserted into HashQP: 68.142.230.191, 448ee6bf
Inserted into HashSC: 68.142.230.192, 448ee6c0
Inserted into HashQP: 68.142.230.192, 448ee6c0
Inserted into HashSC: 68.142.230.193, 448ee6c1
Inserted into HashQP: 68.142.230.193, 448ee6c1
Inserted into HashSC: 68.142.230.194, 448ee6c2
Inserted into HashQP: 68.142.230.194, 448ee6c2
Inserted into HashSC: 68.142.230.195, 448ee6c3
Inserted into HashQP: 68.142.230.195, 448ee6c3
Inserted into HashSC: 68.142.230.196, 448ee6c4
Inserted into HashQP: 68.142.230.196, 448ee6c4
Inserted into HashSC: 68.142.230.197, 448ee6c5
Inserted into HashQP: 68.142.230.197, 448ee6c5
Inserted into HashSC: 68.142.230.198, 448ee6c6

Inserted into HashQP: 68.142.230.198, 448ee6c6
Inserted into HashSC: 68.142.230.199, 448ee6c7
Inserted into HashQP: 68.142.230.199, 448ee6c7
Inserted into HashSC: 68.142.230.200, 448ee6c8
Inserted into HashQP: 68.142.230.200, 448ee6c8
Inserted into HashSC: 68.142.230.201, 448ee6c9
Inserted into HashQP: 68.142.230.201, 448ee6c9
Inserted into HashSC: 68.142.230.202, 448ee6ca
Inserted into HashQP: 68.142.230.202, 448ee6ca
Inserted into HashSC: 68.142.230.203, 448ee6cb
Inserted into HashQP: 68.142.230.203, 448ee6cb
Inserted into HashSC: 68.142.230.204, 448ee6cc
Inserted into HashQP: 68.142.230.204, 448ee6cc
Inserted into HashSC: 68.142.230.205, 448ee6cd
Inserted into HashQP: 68.142.230.205, 448ee6cd
Inserted into HashSC: 68.142.230.206, 448ee6ce
Inserted into HashQP: 68.142.230.206, 448ee6ce
Inserted into HashSC: 68.142.230.207, 448ee6cf
Inserted into HashQP: 68.142.230.207, 448ee6cf
Inserted into HashSC: 68.142.230.208, 448ee6d0
Inserted into HashQP: 68.142.230.208, 448ee6d0
Inserted into HashSC: 68.142.230.209, 448ee6d1
Inserted into HashQP: 68.142.230.209, 448ee6d1
Inserted into HashSC: 68.142.230.210, 448ee6d2
Inserted into HashQP: 68.142.230.210, 448ee6d2
Inserted into HashSC: 68.142.230.211, 448ee6d3
Inserted into HashQP: 68.142.230.211, 448ee6d3
Inserted into HashSC: 68.142.230.212, 448ee6d4
Inserted into HashQP: 68.142.230.212, 448ee6d4
Inserted into HashSC: 68.142.230.213, 448ee6d5
Inserted into HashQP: 68.142.230.213, 448ee6d5
Inserted into HashSC: 68.142.230.214, 448ee6d6
Inserted into HashQP: 68.142.230.214, 448ee6d6
Inserted into HashSC: 68.142.230.215, 448ee6d7
Inserted into HashQP: 68.142.230.215, 448ee6d7
Inserted into HashSC: 68.142.230.216, 448ee6d8
Inserted into HashQP: 68.142.230.216, 448ee6d8
Inserted into HashSC: 68.142.230.217, 448ee6d9
Inserted into HashQP: 68.142.230.217, 448ee6d9
Inserted into HashSC: 68.142.230.240, 448ee6f0
Inserted into HashQP: 68.142.230.240, 448ee6f0
Inserted into HashSC: 68.142.230.247, 448ee6f7
Inserted into HashQP: 68.142.230.247, 448ee6f7
Inserted into HashSC: 68.142.230.248, 448ee6f8
Inserted into HashQP: 68.142.230.248, 448ee6f8
Inserted into HashSC: 68.142.230.249, 448ee6f9
Inserted into HashQP: 68.142.230.249, 448ee6f9
Inserted into HashSC: 68.142.230.250, 448ee6fa
Inserted into HashQP: 68.142.230.250, 448ee6fa
Inserted into HashSC: 68.142.230.251, 448ee6fb
Inserted into HashQP: 68.142.230.251, 448ee6fb
Inserted into HashSC: 68.142.230.252, 448ee6fc
Inserted into HashQP: 68.142.230.252, 448ee6fc
Inserted into HashSC: 68.142.230.253, 448ee6fd
Inserted into HashQP: 68.142.230.253, 448ee6fd
Inserted into HashSC: 68.142.230.254, 448ee6fe
Inserted into HashQP: 68.142.230.254, 448ee6fe
Inserted into HashSC: 68.142.230.32, 448ee620

Inserted into HashQP: 68.142.230.32, 448ee620
Inserted into HashSC: 68.142.230.33, 448ee621
Inserted into HashQP: 68.142.230.33, 448ee621
Inserted into HashSC: 68.142.230.34, 448ee622
Inserted into HashQP: 68.142.230.34, 448ee622
Inserted into HashSC: 68.142.230.35, 448ee623
Inserted into HashQP: 68.142.230.35, 448ee623
Inserted into HashSC: 68.142.230.36, 448ee624
Inserted into HashQP: 68.142.230.36, 448ee624
Inserted into HashSC: 68.142.230.37, 448ee625
Inserted into HashQP: 68.142.230.37, 448ee625
Inserted into HashSC: 68.142.230.38, 448ee626
Inserted into HashQP: 68.142.230.38, 448ee626
Inserted into HashSC: 68.142.230.39, 448ee627
Inserted into HashQP: 68.142.230.39, 448ee627
Inserted into HashSC: 68.142.230.40, 448ee628
Inserted into HashQP: 68.142.230.40, 448ee628
Inserted into HashSC: 68.142.230.41, 448ee629
Inserted into HashQP: 68.142.230.41, 448ee629
Inserted into HashSC: 68.142.230.43, 448ee62b
Inserted into HashQP: 68.142.230.43, 448ee62b
Inserted into HashSC: 68.142.230.44, 448ee62c
Inserted into HashQP: 68.142.230.44, 448ee62c
Inserted into HashSC: 68.142.230.45, 448ee62d
Inserted into HashQP: 68.142.230.45, 448ee62d
Inserted into HashSC: 68.142.230.46, 448ee62e
Inserted into HashQP: 68.142.230.46, 448ee62e
Inserted into HashSC: 68.142.230.47, 448ee62f
Inserted into HashQP: 68.142.230.47, 448ee62f
Inserted into HashSC: 68.142.230.48, 448ee630
Inserted into HashQP: 68.142.230.48, 448ee630
Inserted into HashSC: 68.142.230.49, 448ee631
Inserted into HashQP: 68.142.230.49, 448ee631
Inserted into HashSC: 68.142.231.49, 448ee731
Inserted into HashQP: 68.142.231.49, 448ee731
Inserted into HashSC: 68.142.240.106, 448ef06a
Inserted into HashQP: 68.142.240.106, 448ef06a

Contents of HashSC with the IpValue key:

0: 68.142.230.135, 448ee687 -> 68.142.230.38, 448ee626
1: 69.147.79.173, 45934fad -> 68.142.230.39, 448ee627
2: 68.142.230.137, 448ee689 -> 68.142.230.40, 448ee628
3: 68.142.230.138, 448ee68a -> 68.142.230.41, 448ee629
4:
5: 68.142.230.140, 448ee68c -> 68.142.230.43, 448ee62b
6: 68.142.195.80, 448ec350 -> 68.142.246, 448ef6 -> 68.142.230.141, 448ee68d ->
68.142.230.44, 448ee62c
7: 68.142.195.81, 448ec351 -> 68.142.230.142, 448ee68e -> 68.142.230.45, 448ee62d
8: 68.142.230.143, 448ee68f -> 68.142.230.240, 448ee6f0 -> 68.142.230.46, 448ee62e
9: 68.142.249, 448ef9 -> 68.142.230.144, 448ee690 -> 68.142.230.47, 448ee62f ->
68.142.240.106, 448ef06a
10: 68.142.250, 448efa -> 68.142.230.145, 448ee691 -> 68.142.230.48, 448ee630
11: 68.142.251, 448efb -> 68.142.230.146, 448ee692 -> 68.142.230.49, 448ee631
12: 68.142.230.147, 448ee693
13: 68.142.212.197, 448ed4c5 -> 68.142.230.148, 448ee694
14:
15: 68.142.230.150, 448ee696 -> 68.142.230.247, 448ee6f7
16: 68.142.230.151, 448ee697 -> 68.142.230.248, 448ee6f8

17: 68.142.211.69, 448ed345 -> 68.142.230.152, 448ee698 -> 68.142.230.249, 448ee6f9
18: 68.142.230.153, 448ee699 -> 68.142.230.250, 448ee6fa
19: 68.142.230.154, 448ee69a -> 68.142.230.251, 448ee6fb
20: 68.142.230.155, 448ee69b -> 68.142.230.252, 448ee6fc
21: 68.142.230.156, 448ee69c -> 68.142.230.253, 448ee6fd
22: 67.195.44, 43c32c -> 68.142.230.157, 448ee69d -> 68.142.230.254, 448ee6fe
23: 67.195.45, 43c32d -> 68.142.230.158, 448ee69e
24: 68.142.230.159, 448ee69f
25: 68.142.230.160, 448ee6a0
26: 68.142.230.161, 448ee6a1
27: 68.1.0.131, 44010083 -> 68.142.230.162, 448ee6a2
28: 68.142.230.163, 448ee6a3
29: 68.142.230.164, 448ee6a4
30: 68.142.230.165, 448ee6a5
31: 68.142.230.166, 448ee6a6
32: 68.142.230.167, 448ee6a7
33: 68.142.230.168, 448ee6a8
34: 68.142.230.169, 448ee6a9
35:
36: 67.195.58, 43c33a
37:
38: 68.180.250, 44b4fa
39: 68.180.251, 44b4fb -> 68.142.230.174, 448ee6ae
40: 68.142.230.175, 448ee6af
41: 68.142.230.176, 448ee6b0
42: 68.142.230.177, 448ee6b1
43: 68.142.230.178, 448ee6b2
44: 68.142.230.179, 448ee6b3
45: 68.142.230.180, 448ee6b4
46: 68.142.230.181, 448ee6b5
47: 68.142.230.182, 448ee6b6
48: 68.142.230.183, 448ee6b7
49: 68.142.230.184, 448ee6b8
50: 68.142.230.185, 448ee6b9
51: 68.142.230.186, 448ee6ba
52: 68.142.230.187, 448ee6bb
53: 68.142.230.188, 448ee6bc
54: 68.142.230.189, 448ee6bd
55: 68.142.230.190, 448ee6be
56: 69.147.79.131, 45934f83 -> 68.142.230.191, 448ee6bf
57: 68.142.230.192, 448ee6c0
58: 68.142.230.193, 448ee6c1
59: 68.142.230.194, 448ee6c2
60: 68.142.230.1, 448ee601 -> 68.142.230.195, 448ee6c3
61: 68.142.230.196, 448ee6c4
62: 69.147.79.137, 45934f89 -> 68.142.230.197, 448ee6c5
63: 68.142.230.198, 448ee6c6
64: 68.142.230.199, 448ee6c7
65: 68.142.230.200, 448ee6c8
66: 68.142.230.201, 448ee6c9
67: 68.142.230.202, 448ee6ca
68: 68.180.216.111, 44b4d86f -> 68.142.230.139, 45bae68b -> 68.142.230.203, 448ee6cb
69: 68.142.230.204, 448ee6cc
70: 68.142.203.133, 448ecb85 -> 68.142.230.205, 448ee6cd
71: 68.142.230.206, 448ee6ce
72: 68.142.230.207, 448ee6cf
73: 68.142.230.208, 448ee6d0 -> 68.142.231.49, 448ee731
74: 68.142.230.209, 448ee6d1

75: 68.142.230.210, 448ee6d2
76: 68.142.230.211, 448ee6d3
77: 68.142.230.212, 448ee6d4
78: 68.142.230.213, 448ee6d5
79: 68.142.230.214, 448ee6d6
80: 68.142.230.215, 448ee6d7
81: 68.142.230.216, 448ee6d8
82: 68.142.230.217, 448ee6d9
83:
84:
85:
86:
87: 68.142.230.125, 448ee67d
88: 68.142.230.126, 448ee67e
89: 68.142.230.127, 448ee67f
90: 68.142.230.128, 448ee680 -> 68.142.330.136, 448f4a88
91: 68.142.230.129, 448ee681 -> 68.142.230.32, 448ee620
92: 68.142.230.130, 448ee682 -> 68.142.230.33, 448ee621
93: 68.142.230.34, 448ee622
94: 68.142.230.132, 448ee684 -> 68.142.230.35, 448ee623
95: 68.142.230.133, 448ee685 -> 68.142.230.36, 448ee624
96: 68.142.230.37, 448ee625

In the HashSC object:

Table Size = 97
Number of entries = 134
Load factor = 1.3814432989690721
Number of collisions = 58
Longest Linked List = 4

Contents of HashQP with the String key:

0: 67.195.45, 43c32d
1: 68.142.230.174, 448ee6ae
2: 68.142.230.175, 448ee6af
3: 68.142.230.176, 448ee6b0
4: 68.180.216.111, 44b4d86f
5: 68.142.230.178, 448ee6b2
6: 68.142.230.179, 448ee6b3
7:
8: 68.142.230.177, 448ee6b1
9:
10:
11:
12:
13:
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15:
16:
17:
18:
19:
20:
21:
22:
23:
24:
25:

26:
27:
28:
29:
30: 69.147.79.131, 45934f83
31:
32:
33:
34: 68.142.230.180, 448ee6b4
35: 68.142.230.181, 448ee6b5
36: 69.147.79.137, 45934f89
37: 68.142.230.182, 448ee6b6
38: 68.142.230.183, 448ee6b7
39: 68.142.230.184, 448ee6b8
40: 67.195.58, 43c33a
41: 68.142.230.186, 448ee6ba
42: 68.142.230.187, 448ee6bb
43: 68.142.230.185, 448ee6b9
44: 68.142.230.189, 448ee6bd
45: 68.142.246, 448ef6
46: 68.142.230.188, 448ee6bc
47:
48: 68.142.249, 448ef9
49:
50:
51:
52:
53:
54:
55: 68.142.330.136, 448f4a88
56:
57:
58:
59:
60:
61:
62:
63:
64: 68.142.230.240, 448ee6f0
65:
66:
67:
68:
69:
70:
71: 68.142.230.190, 448ee6be
72: 68.142.230.191, 448ee6bf
73: 68.142.230.192, 448ee6c0
74: 68.142.230.193, 448ee6c1
75: 68.142.230.194, 448ee6c2
76: 68.142.250, 448efa
77: 68.142.251, 448efb
78: 68.142.230.196, 448ee6c4
79: 68.142.230.197, 448ee6c5
80: 68.142.230.195, 448ee6c3
81: 68.142.230.199, 448ee6c7
82: 68.142.230.249, 448ee6f9
83: 68.142.230.198, 448ee6c6

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87: 68.142.230.247, 448ee6f7
88: 68.142.230.248, 448ee6f8
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96:
97: 68.142.230.32, 448ee620
98: 68.142.230.33, 448ee621
99: 68.142.230.34, 448ee622
100: 68.142.230.35, 448ee623
101: 68.142.230.250, 448ee6fa
102: 68.142.230.251, 448ee6fb
103: 68.142.230.252, 448ee6fc
104: 68.142.230.253, 448ee6fd
105: 68.142.230.254, 448ee6fe
106: 68.142.230.37, 448ee625
107: 68.142.230.38, 448ee626
108: 68.142.230.39, 448ee627
109: 68.142.240.106, 448ef06a
110: 68.142.230.36, 448ee624
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120: 68.142.203.133, 448ecb85
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131:
132: 68.142.230.40, 448ee628
133: 68.142.230.41, 448ee629
134:
135: 68.142.230.43, 448ee62b
136: 68.142.230.44, 448ee62c
137: 68.142.230.45, 448ee62d
138: 68.142.230.46, 448ee62e
139: 68.142.230.47, 448ee62f
140: 68.142.230.48, 448ee630
141: 68.142.230.49, 448ee631

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175: 68.1.0.131, 44010083
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180: 69.147.79.173, 45934fad
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204: 68.142.211.69, 448ed345
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213:
214: 68.142.230.125, 448ee67d
215: 68.142.230.126, 448ee67e
216: 68.142.230.127, 448ee67f
217: 68.142.230.128, 448ee680
218: 68.142.230.129, 448ee681
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223:
224: 68.142.230.1, 448ee601
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232:
233: 68.142.195.80, 448ec350
234: 68.142.195.81, 448ec351
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246: 68.142.230.130, 448ee682
247:
248: 68.142.230.132, 448ee684
249: 68.142.230.133, 448ee685
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251: 68.142.230.135, 448ee687
252:
253: 68.142.230.137, 448ee689
254: 68.142.230.138, 448ee68a
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283: 68.142.230.140, 448ee68c
284: 68.142.230.141, 448ee68d
285: 68.142.230.142, 448ee68e
286: 68.142.230.143, 448ee68f
287: 68.142.230.144, 448ee690
288: 68.142.230.145, 448ee691
289: 68.142.230.146, 448ee692
290: 68.142.230.147, 448ee693
291: 68.142.230.148, 448ee694
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313: 68.142.230.200, 448ee6c8
314: 68.142.230.201, 448ee6c9
315: 68.142.230.202, 448ee6ca

316: 68.142.230.203, 448ee6cb
317: 68.142.230.204, 448ee6cc
318: 68.142.230.205, 448ee6cd
319: 68.142.230.206, 448ee6ce
320: 68.142.230.150, 448ee696
321: 68.142.230.151, 448ee697
322: 68.142.230.152, 448ee698
323: 68.142.230.153, 448ee699
324: 68.142.230.154, 448ee69a
325: 68.142.230.155, 448ee69b
326: 68.180.250, 44b4fa
327: 68.180.251, 44b4fb
328: 68.142.230.157, 448ee69d
329: 68.142.230.158, 448ee69e
330: 68.442.230.139, 45bae68b
331: 68.142.230.209, 448ee6d1
332:
333: 68.142.230.159, 448ee69f
334:
335: 68.142.230.156, 448ee69c
336: 68.142.230.207, 448ee6cf
337: 68.142.230.208, 448ee6d0
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350: 68.142.230.210, 448ee6d2
351: 68.142.230.211, 448ee6d3
352: 68.142.230.212, 448ee6d4
353: 68.142.230.213, 448ee6d5
354: 68.142.230.214, 448ee6d6
355: 68.142.230.215, 448ee6d7
356: 68.142.230.216, 448ee6d8
357: 68.142.230.160, 448ee6a0
358: 68.142.230.161, 448ee6a1
359: 68.142.230.162, 448ee6a2
360: 68.142.230.163, 448ee6a3
361: 68.142.230.164, 448ee6a4
362: 68.142.230.165, 448ee6a5
363: 68.142.230.166, 448ee6a6
364: 68.142.230.167, 448ee6a7
365: 68.142.230.168, 448ee6a8
366: 68.142.230.169, 448ee6a9
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373: 68.142.230.217, 448ee6d9

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375: 68.142.231.49, 448ee731
376:
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388:
389: 68.142.212.197, 448ed4c5
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396: 67.195.44, 43c32c

In the HashQP object:

Table Size = 397
Number of entries = 134
Load factor = 0.33753148614609574
Number of collisions = 65
Longest Collision Run = 4

Testing HashSC with IpValue key:

Retrieved in HashTable, IPAddress: 68.142.240.106, 448ef06a, now trying to delete it
The insert method for 68.142.240.106, 448ef06a returns false
Removed 68.142.240.106, 448ef06a 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: 68.142.240.106, 448ef06a, now trying to delete it
The insert method for 68.142.240.106, 448ef06a returns false
Removed 68.142.240.106, 448ef06a 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: 68.142.230.135, 448ee687 -> 68.142.230.38, 448ee626
1: 69.147.79.173, 45934fad -> 68.142.230.39, 448ee627
2: 68.142.230.137, 448ee689 -> 68.142.230.40, 448ee628
3: 68.142.230.138, 448ee68a -> 68.142.230.41, 448ee629
4:

5: 68.142.230.140, 448ee68c -> 68.142.230.43, 448ee62b
6: 68.142.195.80, 448ec350 -> 68.142.246, 448ef6 -> 68.142.230.141, 448ee68d ->
68.142.230.44, 448ee62c
7: 68.142.195.81, 448ec351 -> 68.142.230.142, 448ee68e -> 68.142.230.45, 448ee62d
8: 68.142.230.143, 448ee68f -> 68.142.230.240, 448ee6f0 -> 68.142.230.46, 448ee62e
9: 68.142.249, 448ef9 -> 68.142.230.144, 448ee690 -> 68.142.230.47, 448ee62f
10: 68.142.250, 448efa -> 68.142.230.145, 448ee691 -> 68.142.230.48, 448ee630
11: 68.142.251, 448efb -> 68.142.230.146, 448ee692 -> 68.142.230.49, 448ee631
12: 68.142.230.147, 448ee693
13: 68.142.212.197, 448ed4c5 -> 68.142.230.148, 448ee694
14:
15: 68.142.230.150, 448ee696 -> 68.142.230.247, 448ee6f7
16: 68.142.230.151, 448ee697 -> 68.142.230.248, 448ee6f8
17: 68.142.211.69, 448ed345 -> 68.142.230.152, 448ee698 -> 68.142.230.249, 448ee6f9
18: 68.142.230.153, 448ee699 -> 68.142.230.250, 448ee6fa
19: 68.142.230.154, 448ee69a -> 68.142.230.251, 448ee6fb
20: 68.142.230.155, 448ee69b -> 68.142.230.252, 448ee6fc
21: 68.142.230.156, 448ee69c -> 68.142.230.253, 448ee6fd
22: 67.195.44, 43c32c -> 68.142.230.157, 448ee69d -> 68.142.230.254, 448ee6fe
23: 67.195.45, 43c32d -> 68.142.230.158, 448ee69e
24: 68.142.230.159, 448ee69f
25: 68.142.230.160, 448ee6a0
26: 68.142.230.161, 448ee6a1
27: 68.1.0.131, 44010083 -> 68.142.230.162, 448ee6a2
28: 68.142.230.163, 448ee6a3
29: 68.142.230.164, 448ee6a4
30: 68.142.230.165, 448ee6a5
31: 68.142.230.166, 448ee6a6
32: 68.142.230.167, 448ee6a7
33: 68.142.230.168, 448ee6a8
34: 68.142.230.169, 448ee6a9
35:
36: 67.195.58, 43c33a
37:
38: 68.180.250, 44b4fa
39: 68.180.251, 44b4fb -> 68.142.230.174, 448ee6ae
40: 68.142.230.175, 448ee6af
41: 68.142.230.176, 448ee6b0
42: 68.142.230.177, 448ee6b1
43: 68.142.230.178, 448ee6b2
44: 68.142.230.179, 448ee6b3
45: 68.142.230.180, 448ee6b4
46: 68.142.230.181, 448ee6b5
47: 68.142.230.182, 448ee6b6
48: 68.142.230.183, 448ee6b7
49: 68.142.230.184, 448ee6b8
50: 68.142.230.185, 448ee6b9
51: 68.142.230.186, 448ee6ba
52: 68.142.230.187, 448ee6bb
53: 68.142.230.188, 448ee6bc
54: 68.142.230.189, 448ee6bd
55: 68.142.230.190, 448ee6be
56: 69.147.79.131, 45934f83 -> 68.142.230.191, 448ee6bf
57: 68.142.230.192, 448ee6c0
58: 68.142.230.193, 448ee6c1
59: 68.142.230.194, 448ee6c2
60: 68.142.230.1, 448ee601 -> 68.142.230.195, 448ee6c3
61: 68.142.230.196, 448ee6c4

62: 69.147.79.137, 45934f89 -> 68.142.230.197, 448ee6c5
63: 68.142.230.198, 448ee6c6
64: 68.142.230.199, 448ee6c7
65: 68.142.230.200, 448ee6c8
66: 68.142.230.201, 448ee6c9
67: 68.142.230.202, 448ee6ca
68: 68.180.216.111, 44b4d86f -> 68.442.230.139, 45bae68b -> 68.142.230.203, 448ee6cb
69: 68.142.230.204, 448ee6cc
70: 68.142.203.133, 448ecb85 -> 68.142.230.205, 448ee6cd
71: 68.142.230.206, 448ee6ce
72: 68.142.230.207, 448ee6cf
73: 68.142.230.208, 448ee6d0 -> 68.142.231.49, 448ee731
74: 68.142.230.209, 448ee6d1
75: 68.142.230.210, 448ee6d2
76: 68.142.230.211, 448ee6d3
77: 68.142.230.212, 448ee6d4
78: 68.142.230.213, 448ee6d5
79: 68.142.230.214, 448ee6d6
80: 68.142.230.215, 448ee6d7
81: 68.142.230.216, 448ee6d8
82: 68.142.230.217, 448ee6d9
83:
84:
85:
86:
87: 68.142.230.125, 448ee67d
88: 68.142.230.126, 448ee67e
89: 68.142.230.127, 448ee67f
90: 68.142.230.128, 448ee680 -> 68.142.330.136, 448f4a88
91: 68.142.230.129, 448ee681 -> 68.142.230.32, 448ee620
92: 68.142.230.130, 448ee682 -> 68.142.230.33, 448ee621
93: 68.142.230.34, 448ee622
94: 68.142.230.132, 448ee684 -> 68.142.230.35, 448ee623
95: 68.142.230.133, 448ee685 -> 68.142.230.36, 448ee624
96: 68.142.230.37, 448ee625

Now the contents of HashQP with the String key has:

0: 67.195.45, 43c32d
1: 68.142.230.174, 448ee6ae
2: 68.142.230.175, 448ee6af
3: 68.142.230.176, 448ee6b0
4: 68.180.216.111, 44b4d86f
5: 68.142.230.178, 448ee6b2
6: 68.142.230.179, 448ee6b3
7:
8: 68.142.230.177, 448ee6b1
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27:
28:
29:
30: 69.147.79.131, 45934f83
31:
32:
33:
34: 68.142.230.180, 448ee6b4
35: 68.142.230.181, 448ee6b5
36: 69.147.79.137, 45934f89
37: 68.142.230.182, 448ee6b6
38: 68.142.230.183, 448ee6b7
39: 68.142.230.184, 448ee6b8
40: 67.195.58, 43c33a
41: 68.142.230.186, 448ee6ba
42: 68.142.230.187, 448ee6bb
43: 68.142.230.185, 448ee6b9
44: 68.142.230.189, 448ee6bd
45: 68.142.246, 448ef6
46: 68.142.230.188, 448ee6bc
47:
48: 68.142.249, 448ef9
49:
50:
51:
52:
53:
54:
55: 68.142.330.136, 448f4a88
56:
57:
58:
59:
60:
61:
62:
63:
64: 68.142.230.240, 448ee6f0
65:
66:
67:
68:
69:
70:
71: 68.142.230.190, 448ee6be
72: 68.142.230.191, 448ee6bf
73: 68.142.230.192, 448ee6c0
74: 68.142.230.193, 448ee6c1
75: 68.142.230.194, 448ee6c2
76: 68.142.250, 448efa
77: 68.142.251, 448efb
78: 68.142.230.196, 448ee6c4

79: 68.142.230.197, 448ee6c5
80: 68.142.230.195, 448ee6c3
81: 68.142.230.199, 448ee6c7
82: 68.142.230.249, 448ee6f9
83: 68.142.230.198, 448ee6c6
84:
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87: 68.142.230.247, 448ee6f7
88: 68.142.230.248, 448ee6f8
89:
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92:
93:
94:
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96:
97: 68.142.230.32, 448ee620
98: 68.142.230.33, 448ee621
99: 68.142.230.34, 448ee622
100: 68.142.230.35, 448ee623
101: 68.142.230.250, 448ee6fa
102: 68.142.230.251, 448ee6fb
103: 68.142.230.252, 448ee6fc
104: 68.142.230.253, 448ee6fd
105: 68.142.230.254, 448ee6fe
106: 68.142.230.37, 448ee625
107: 68.142.230.38, 448ee626
108: 68.142.230.39, 448ee627
109:
110: 68.142.230.36, 448ee624
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120: 68.142.203.133, 448ecb85
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131:
132: 68.142.230.40, 448ee628
133: 68.142.230.41, 448ee629
134:
135: 68.142.230.43, 448ee62b
136: 68.142.230.44, 448ee62c

137: 68.142.230.45, 448ee62d
138: 68.142.230.46, 448ee62e
139: 68.142.230.47, 448ee62f
140: 68.142.230.48, 448ee630
141: 68.142.230.49, 448ee631
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175: 68.1.0.131, 44010083
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204: 68.142.211.69, 448ed345
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213:
214: 68.142.230.125, 448ee67d
215: 68.142.230.126, 448ee67e
216: 68.142.230.127, 448ee67f
217: 68.142.230.128, 448ee680
218: 68.142.230.129, 448ee681
219:
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222:
223:
224: 68.142.230.1, 448ee601
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226:
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231:
232:
233: 68.142.195.80, 448ec350
234: 68.142.195.81, 448ec351
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245:
246: 68.142.230.130, 448ee682
247:
248: 68.142.230.132, 448ee684
249: 68.142.230.133, 448ee685
250:
251: 68.142.230.135, 448ee687
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253: 68.142.230.137, 448ee689
254: 68.142.230.138, 448ee68a
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282:
283: 68.142.230.140, 448ee68c
284: 68.142.230.141, 448ee68d
285: 68.142.230.142, 448ee68e
286: 68.142.230.143, 448ee68f
287: 68.142.230.144, 448ee690
288: 68.142.230.145, 448ee691
289: 68.142.230.146, 448ee692
290: 68.142.230.147, 448ee693
291: 68.142.230.148, 448ee694
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312:
313: 68.142.230.200, 448ee6c8
314: 68.142.230.201, 448ee6c9
315: 68.142.230.202, 448ee6ca
316: 68.142.230.203, 448ee6cb
317: 68.142.230.204, 448ee6cc
318: 68.142.230.205, 448ee6cd
319: 68.142.230.206, 448ee6ce
320: 68.142.230.150, 448ee696
321: 68.142.230.151, 448ee697
322: 68.142.230.152, 448ee698
323: 68.142.230.153, 448ee699
324: 68.142.230.154, 448ee69a
325: 68.142.230.155, 448ee69b
326: 68.180.250, 44b4fa
327: 68.180.251, 44b4fb
328: 68.142.230.157, 448ee69d
329: 68.142.230.158, 448ee69e
330: 68.442.230.139, 45bae68b
331: 68.142.230.209, 448ee6d1
332:
333: 68.142.230.159, 448ee69f
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335: 68.142.230.156, 448ee69c
336: 68.142.230.207, 448ee6cf
337: 68.142.230.208, 448ee6d0
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350: 68.142.230.210, 448ee6d2
351: 68.142.230.211, 448ee6d3
352: 68.142.230.212, 448ee6d4
353: 68.142.230.213, 448ee6d5
354: 68.142.230.214, 448ee6d6
355: 68.142.230.215, 448ee6d7
356: 68.142.230.216, 448ee6d8
357: 68.142.230.160, 448ee6a0
358: 68.142.230.161, 448ee6a1
359: 68.142.230.162, 448ee6a2
360: 68.142.230.163, 448ee6a3
361: 68.142.230.164, 448ee6a4
362: 68.142.230.165, 448ee6a5
363: 68.142.230.166, 448ee6a6
364: 68.142.230.167, 448ee6a7
365: 68.142.230.168, 448ee6a8
366: 68.142.230.169, 448ee6a9
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373: 68.142.230.217, 448ee6d9
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375: 68.142.231.49, 448ee731
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389: 68.142.212.197, 448ed4c5
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396: 67.195.44, 43c32c