82, 31, 28,4, 45, 27, 59, 79, 35
H(key) = key mod 11
TableSize = 11

	0	1	2	3	4	5	6	7	8	9	10
Key		45	79	35	4	82	28	27	59	31	
Probes		1	2	2	1	1	1	3	5	1	

(a) Use linear rehashing

H(82) = 82 % 11 = 5
H(31) = 31 % 11 = 9
H(28) = 28 % 11 = 6
H(4) = 4 % 11 = 4
H(45) = 4 % 11 = 1
H(27) = 27 % 11 = 5
rehash(27) = (5+1) % 11 = 6 % 11 = 6
rehash(27) = (6+1) % 11 = 7 % 11 = 7
H(59) = 59 % 11 = 4
rehash(59) = (4+1) % 11 = 5 % 11 = 5
rehash(59) = (5+1) % 11 = 6 % 11 = 6
rehash(59) = (6+1) % 11 = 7 % 11 = 7
rehash(59) = (7+1) % 11 = 8 % 11 = 8
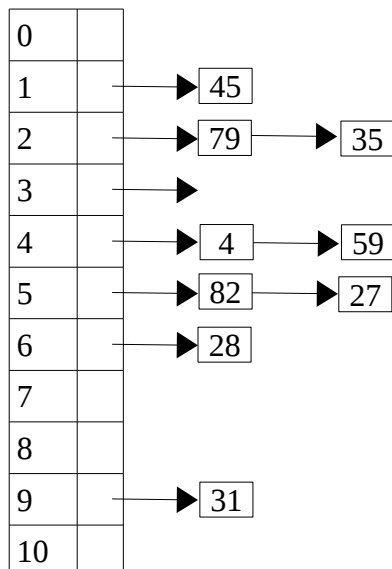H(79) = 79 % 11 = 2
H(35) = 35 % 11 = 2
rehash(35) = (2+1) % 3 = 3 % 11 = 3

Avg = (1 + 2 + 2 + 1 + 1 + 1 + 3 + 5 + 1)/9 = 17/9

(b) Use external chaining

Avg = 9 / 9

(c) Use coalesced chaining with a cellar size of four and the hash function H(key) = key mod 7.

82, 31, 28,4,

0	28
1	
2	
3	31
4	4
5	82
6	
7	
8	
9	
10	elpa

Cellar

45, 27,

0	28
1	
2	
3	31
4	4
5	82
6	27
7	
8	
9	elpa
10	45

Cellar

59, 79

0	28
1	
2	79
3	31
4	4
5	82
6	27
7	
8	epla
9	59
10	45

Cellar

, 35

0	28
1	
2	79
3	31
4	4
5	82
6	27
7	epla
8	35
9	59
10	45

Cellar

82(1) , 31(1), 28(1),4 (1), 45(2), 27(1), 59(3), 79(1), 35(2)
Avg = 13 / 9