

1. Two desirable properties of a hash function

- Uniform Distributed
- Deterministic

2. hash keys [12, 44, 13, 88, 23, 94, 11, 39, 20, 16, 5]

$h(i) = [7, 5, 9, 5, 7, 6, 5, 6, 1, 4, 4]$

a, chaining

0	1	2	3	4	5	6	7	8	9	10
	20			16	44	94	12		13	
				5	88	39	23			
					11					

b, linear probing

0	1	2	3	4	5	6	7	8	9	10
11	39	20	5	16	44	88	12	23	13	94

3. hash keys [1, 3, 18, 8, 23, 35, 11, 36, 20, 16]

$h(i) = [4, 6, 4, 11, 9, 4, 14, 5, 6, 2]$

a. chaining

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
		16		1	36	3			23		8			11		
				18		20										
				35												

b, linear probing

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
		16		1	18	3	35	36	23	20	8			11		