

Linear Probing:

Insert 10: $h(10) = 0$ -> insert to index 0

Insert 41: $h(41) = 5$ -> insert to index 5

Insert 52: $h(52) = 6$ -> insert to index 6

Insert 25: $h(25) = 5$ (occupied) + 2 (collision) = 7 -> insert to index 7

Insert 13: $h(13) = 1$ -> insert to index 1

Insert 77: $h(77) = 1$ (occupied) + 1 (collision) = 2 -> insert to index 2

Insert 54: $h(54) = 4$ -> insert to index 4

Insert 70: $h(70) = 4$ (occupied) + 7 (collision) = 3 -> insert to index 3

Index	Element
0	10
1	13
2	77
3	70
4	54
5	41
6	52
7	25

Quadratic Probing:

Insert 10: $h(10) = 0$ -> insert to index 0

Insert 42: $h(41) = 5$ -> insert to index 5

Insert 52: $h(52) = 6$ -> insert to index 6

Insert 25: $h(25) = 5$ (occupied) + 1 (collision) + 4 (collision) = 2 -> insert to index 2

Insert 13: $h(13) = 1$ -> insert to index 1

Insert 42: $h(42) = 0$ (occupied) + 1 (collision) + 4 (collision) + 9 (collision) + 16 (collision) + 25 (collision) = 7 -> insert to index 7.

Insert 35: $h(35) = 3$ -> insert to index 3

Insert 92: $h(92) = 6 + 1$ (collision) + 4 (collision) + 9 (collision) + 16 (collision) + 25 (collision) = 4 -> insert to index 4

Index	Element
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0	10
1	13
2	25
3	35
4	92
5	41
6	52
7	42

Double Hashing:

Insert 22: $h(22) = 6 \rightarrow$ insert to index 6

Insert 14: $h(14) = 6$ (occupied) + 4 (collision) = 2 \rightarrow insert to index 2

Insert 39: $h(39) = 7 \rightarrow$ insert to index 7

Insert 23: $h(23) = 7$ (occupied) + 7 (collision) + 14 (collision) = 4 \rightarrow insert to index 4

Insert 80: $h(80) = 0 \rightarrow$ insert to index 0

Insert 53: $h(53) = 5 \rightarrow$ insert to index 5

Insert 49: $h(49) = 1 \rightarrow$ insert to index 1

Insert 50: $h(50) = 2$ (occupied) + 1 (collision) = 3 \rightarrow insert to index 3

Index	Element
0	80
1	49
2	14
3	50
4	23
5	53
6	22
7	39