



Bloom Filters

Learning Objectives

1. Understand the Bloom Filter Example



S = { 6, 8, 4 }

Repeated Trials Example

$$h_1(x) = x \% 10 \quad h_2(x) = 2x \% 10 \quad h_3(x) = (5+3x) \% 10$$

0	0
1	0
2	0
3	0
4	0
5	0
6	0
7	0
8	0
9	0

0	0
1	0
2	0
3	0
4	0
5	0
6	0
7	0
8	0
9	0

0	0
1	0
2	0
3	0
4	0
5	0
6	0
7	0
8	0
9	0



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Repeated Trials Example

$$h_1(x) = x \% 10 \quad h_2(x) = 2x \% 10 \quad h_3(x) = (5+3x) \% 10$$

0	0
1	0
2	0
3	0
4	1
5	0
6	1
7	0
8	1
9	0

0	0
1	0
2	1
3	0
4	0
5	0
6	1
7	0
8	1
9	0

0	0
1	0
2	0
3	1
4	0
5	0
6	0
7	1
8	0
9	1

find(8)
find(1)
find(16)

