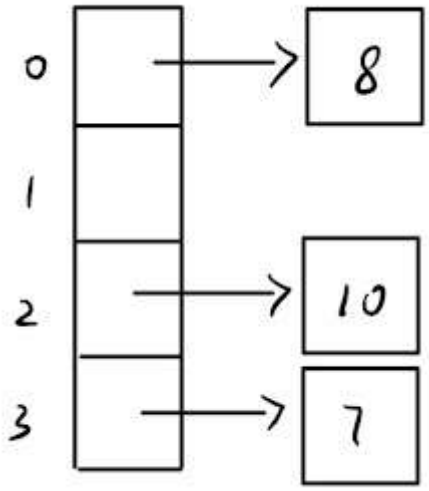
Given the state of the hash table below, select which bucket each item would go into AFTER calling **add(4)**. Assuming we double the bucket size if **N/M > 0.75**. * 4 points



	0	1	2	3	4	5	6	7
8	○	○	○	○	○	○	○	○
10	○	○	○	○	○	○	○	○
7	○	○	○	○	○	○	○	○
4	○	○	○	○	○	○	○	○

Select all of the statements below that **correctly** describe how the factor contributes to the asymptotic analysis of the hash tables shown in lecture. * 3 points

- [ ] Number of buckets (M): If M is fixed, then the performance of "add" and "contains" will approach linear as N approaches infinity.
- [ ] Number of buckets (M): If M is dynamic, then the performance of "add" and "contains" will have constant or amortized constant time as N approaches infinity.
- [ ] Hash function: If the hash function distributes the items evenly, then the performance of "add" and "contains" will have constant or amortized constant time.
- [ ] Hash function: If the hash function doesn't distribute the items evenly, then the performance of "add" and "contains" will not have constant or amortized constant time.

A copy of your responses will be emailed to yiyunchen@berkeley.edu.

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