Data Structures

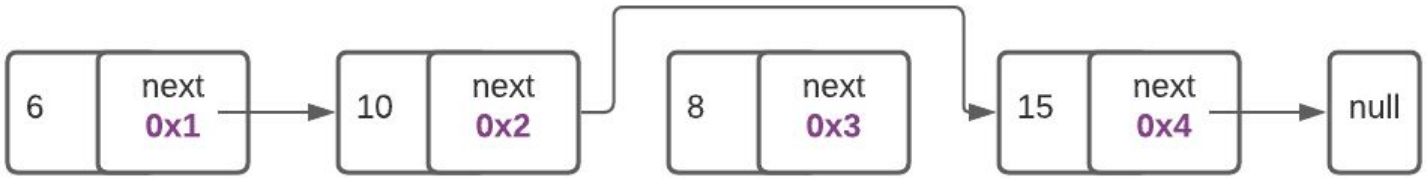
Some Drawing 4 Solutions

Mostafa S. Ibrahim
Teaching, Training and Coaching for more than a decade!

Artificial Intelligence & Computer Vision Researcher
PhD from Simon Fraser University - Canada
Bachelor / Msc from Cairo University - Egypt
Ex-(Software Engineer / ICPC World Finalist)

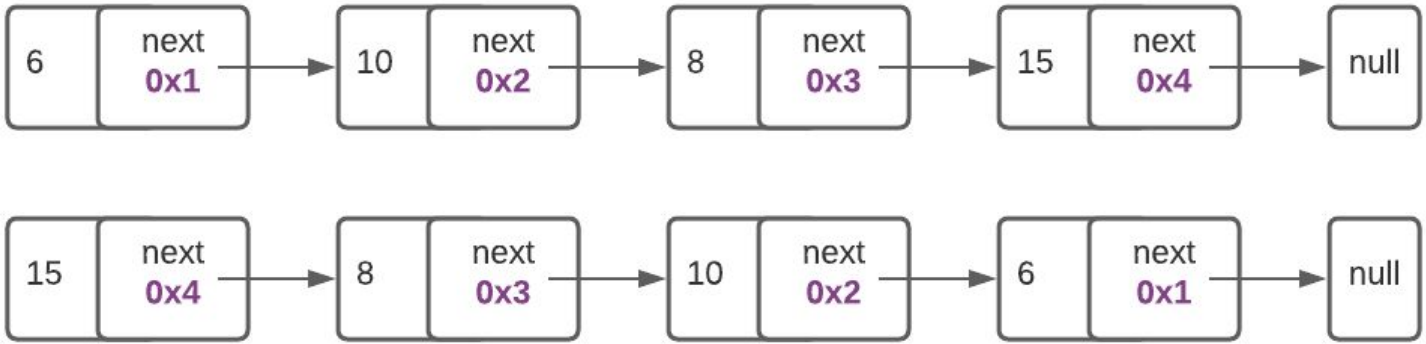
Problem #1: Delete with key

- Given a list, delete the first node with the given key value
- E.g. {1, **2**, 3, 4, **2**, 6}, key = 2 ⇒ {1, 3, 4, 2, 6}
- Same logic as nth node. You need the node before the target key



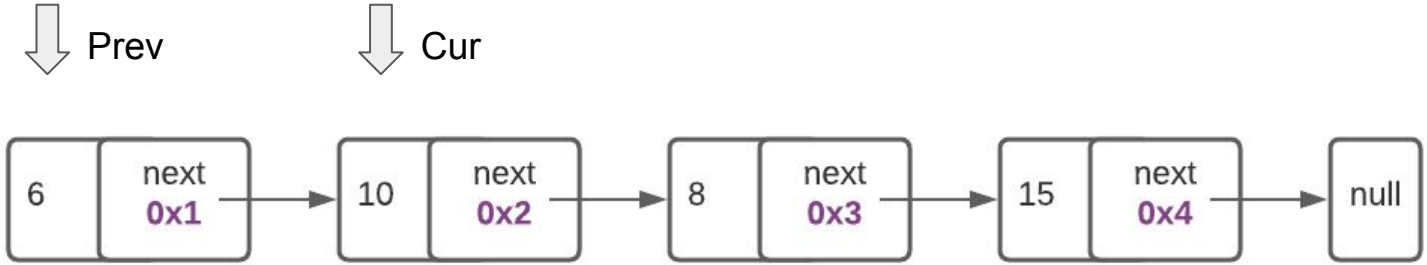
Problem #3: Reverse list nodes

- Given a list, reverse all its nodes (addresses)
- E.g. {1, 2, 3, 4, 5} ⇒ {5, 4, 3, 2, 1}



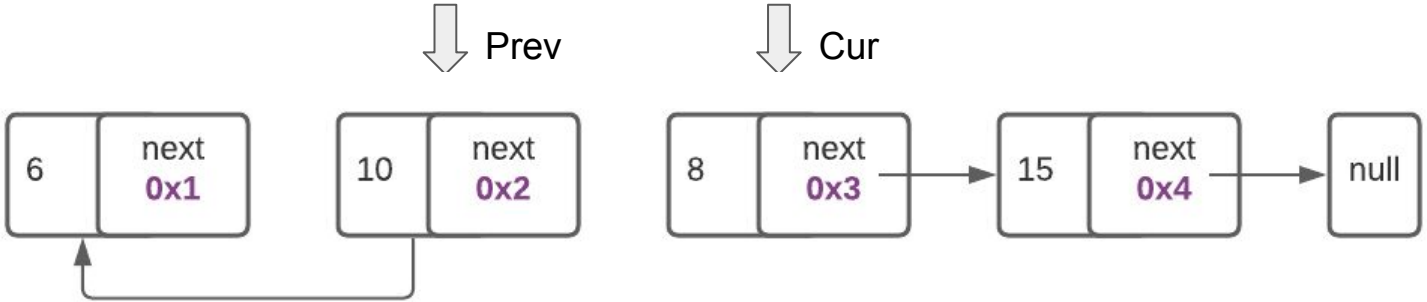
Problem #3: Reverse list nodes

- Start from head, and reverse links one by one
- Assign new head/tail



Problem #3: Reverse list nodes

- Swap and move



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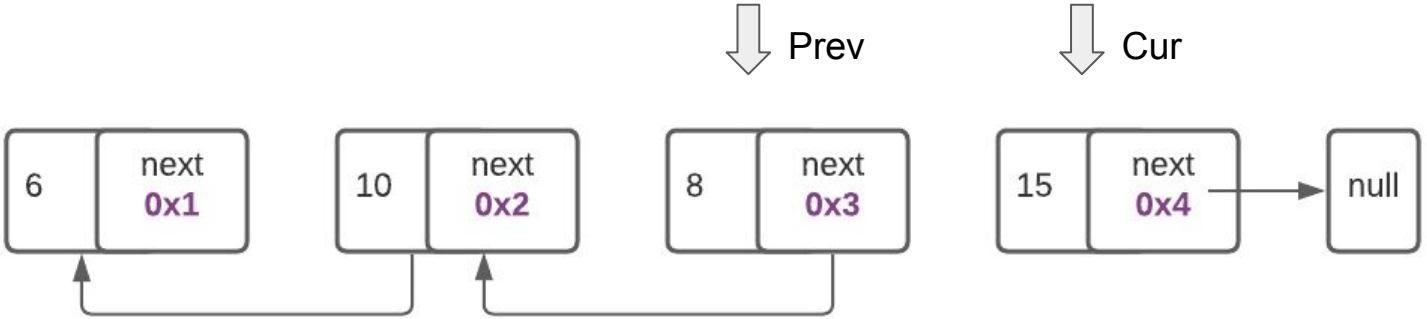
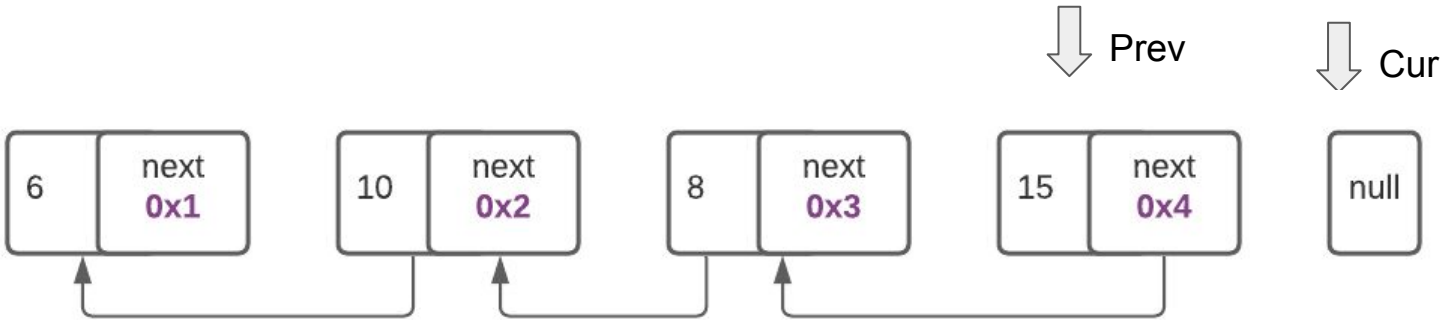


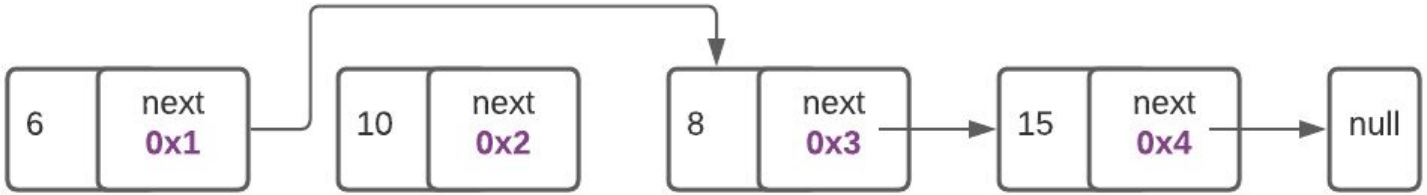
Problem #3: Reverse list nodes

- Swap and move
- Set 15 as head and 6 as tail during the process



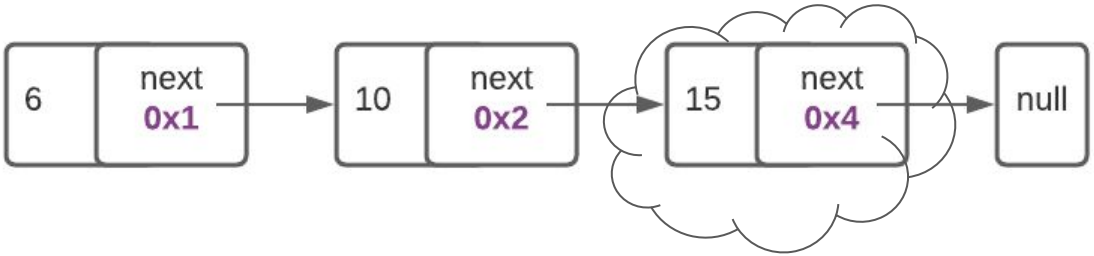
Problem #4: Delete even positions

- Given a list, delete all nodes at even positions (2, 4, 6, etc)
- E.g. {1, 2, 3, 4, 5} ⇒ {1, 3, 5}
- E.g. {1, 2, 3, 4, 5, 6} ⇒ {1, 3, 5}



Problem #5: Insert to be sorted

- Let’s assume the current list is sorted: 6, 10, 15
- Now we want insert 12 and we want the list to still be sorted
- We need to find the first node where 12 <= its value
- Then we insert before it



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