

Data Structures

DLL Homework 1

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Teaching, Training and Coaching since more than a decade!

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Problem #1: Delete all nodes with key

- `def delete_all_nodes_with_key(self, key)`
- It will delete **all nodes** of the given key
- List = [1, 2, 5, 4, 5, 4, 4] - key = 5 \Rightarrow 1, 2, 4, 4, 4

Problem #2: Delete even positions

- `def delete_even_positions(self):`
- Given a list, delete all nodes at even positions (2, 4, 6, etc)
- E.g. {1, 2, 3, 4, 10} \Rightarrow {1, 3, 10}
- E.g. {1, 2, 3, 4, 5, 6} \Rightarrow {1, 3, 5}
- Note: positions NOT values

Problem #3: Delete odd positions

- `def delete_odd_positions(self):`
- Given a list, delete all nodes at odd positions (1, 3, 5, etc)
- E.g. {1, 2, 3, 4, 10} \Rightarrow {2, 4}
- E.g. {1, 2, 3, 4, 5, 7} \Rightarrow {2, 4, 7}
- Note: positions NOT values

Problem #4: Is Palindrome

- A palindrome number is read the same backward as forward (1221, 131, 0)
- `def is_palindrome(self)`
- It returns **true** if the current linked list is a palindrome
- $\{1, 2, 1\} \Rightarrow \text{True}$
- $\{1, 2, 3, 1\} \Rightarrow \text{False}$

“Acquire knowledge and impart it to the people.”

“Seek knowledge from the Cradle to the Grave.”