Question - 1
Analysis of Algorithm

SCORE: **5 points**

What is the complexity of the 3-sum problem in terms of Big Omega?

- O(N^2)
- Ω(N^2 * LogN)
- O(N^3)
- Ω(N^3)

Question - 2
Java Basics

SCORE: **5 points**

True or False: it's always safe to use mid = (low + high) / 2 in binary search.

- True
- False

Question - 3
Tilde notation and Big O

SCORE: **5 points**

analysis of algorithm

Which of the following could be a correct description of the behavior of some algorithm:

- ~1/6* N^3 + N
- O(1/6 * N^3)
- ~1/6* N^3
- O(N^2 + N)

Question - 4
Linked List

SCORE: **5 points**

linked list

Help

You are given pointers to the first and last nodes of a singly linked list, which of the following operations are dependent on the length of the linked list?

- ( ) Add a new element at the end of the list
- ( ) Delete the first element
- ( ) Insert a new element as a first element
- (•) Delete the last element of the list

Question - 5

SCORE: **35 points**

Middle Node Of Linked List

linked list | 2 pointers

Find the middle node of a given linked list.

Examples

- L = null, return null
- L = 1 -> null, return 1
- L = 1 -> 2 -> null, return 1
- L = 1 -> 2 -> 3 -> null, return 2
- L = 1 -> 2 -> 3 -> 4 -> null, return 2