**Data Structures and Algorithms**

**Assignment 2**

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| **Total Marks: 10** | **Date:** |
| **Name:** | **ID:** |
| **Section:** | |

**Read Carefully**

**Soft Copy Submission:** Through Portal

**Hard Copy Submission:** In Class

**Late Submission Policy:** 10% Deduction /24 Hours.

**Instructions: (5 marks will be deducted for not following the instructions)**

* Viva can be conducted OR a Quiz will be taken on the basis of assignment.
* Attempt all questions in sequence. Attach this title page as a front page of assignment.
* Assignment should be handwritten/printed on A4 sized page.

**(No pages from register please.)**

* Submit Hard copy in class and scanned copy of solved assignment on the portal **(Assignment should be submitted before deadline)**
* Assignment should not be accepted through email.

**Total Marks: 20 (70% Assignment + 30% Evaluation)**

**Answers Clarity:** Justify your answer where needed.

**The approach that I’m going to follow here** ☺

**( these are friend functions that we are going to incorporate in our program)**

**( linked list ki file exist krti hae ab ye functions as friend functions bana kr , in funcitons k through implementation krwaein gae :)**

**Question # 1:**  **(10 Marks)**

You are given a singly linked list. Write two functions:

1. **Insert the Nth Node:**

Write a function to insert a node at the nth position in the singly linked list. The function should take three arguments: the head of the linked list, the position n, and the data to be inserted. If n is greater than the length of the list, append the node at the end.

1. **Delete the Nth Node:**

Write a function to delete the node at the nth position in the singly linked list. The function should take two arguments: the head of the linked list and the position n. If n is greater than the length of the list, do nothing.

**Hint: ( these are friend functions that we are going to incorporate in our program)**

**( linked list ki file exist krti hae ab ye functions as friend functions bana kr , in funcitons k through implementation krwaein gae ).**

* void insertNth(Node\*& head, int n, int data)
* void deleteNth(Node\*& head, int n)

Good Luck

Things to look on-🡪

1. node<t> \* pointer 🡪 implicit and all that shit read about it.
2. Friend functions using templates ki implementation.