

Assignment Number 1

Instructions:

- Attach proper cover page
 - Assignment should be handwritten
 - Copied assignment will be marked 0
 - You are also required submit soft copy of your code in lab
 - Each Question carries 20 marks
 - Submission Date: 22-3-2024 (Friday)
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Question 1: **TeleConnect**, a prominent mobile network provider, is developing a robust SIM management system to streamline operations and improve customer experience. This system aims to handle SIM card issuance, balance management, ownership transfer, activation status checks, balance inquiries, data usage tracking, and mobile data recharge.

Functionalities:

1. SIMCard Class:

- The `SIMCard` class encapsulates individual SIM card details, including the phone number, owner NIC, activation status, type (call or data), balance, and mobile data.
- It provides methods to activate/deactivate SIM cards, add balance, check balance, transfer ownership, check activation status, deduct mobile data usage, and recharge mobile data.

2. Main Program:

- The main program serves as the user interface for interacting with the SIM management system.
- Users are presented with a menu offering various actions to manage SIM cards efficiently.

Scenario:

- Upon accessing the program, users encounter a user-friendly menu presenting diverse options for managing SIM cards.
- Users can initiate SIM card issuance by entering essential details such as the phone number, type (call or data), initial balance, and mobile data allowance.
- Adding balance to existing SIM cards is facilitated by specifying the phone number and the desired recharge amount.
- The system enables hassle-free ownership transfers, allowing users to update the owner NIC associated with a SIM card by providing the phone number and the new owner NIC.
- Deactivation of SIM cards is straightforward, requiring users to input the phone number of the target SIM card.
- Users can promptly verify the activation status of any SIM card in the system by entering its corresponding phone number.

- The balance inquiry feature provides users with real-time updates on the remaining balance of a specific SIM card, enhancing transparency and convenience.
- Additionally, users have the option to recharge mobile data, facilitating uninterrupted data connectivity. They can specify the phone number and the desired amount of data to recharge.