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**National University of Modern Languages**

Department of Computer Sciences

**Subject:** Data Structures and Algorithm **Instructor:** Zainab Malik

**Assignment No:** 2 **Due Date:** 10-12-2021

**Class:** BSCS 3A/3B

**Student Roll No:** **Student Name:**

**Total Marks:** 25 **Obtained Marks:**

Note: It an individual assignment and assignment will be evaluated on the basis of Viva. Each student has to submit the assignment in hard copy with proper comments and this page should be the first page of the hard copy.

**Assigned Tasks:**

**Create a C++ based grocery application in which list of items along with their unique item ID, name, description and price per item will be displayed on screen for the user to add/delete items of his/choice in/from a cart (cart will be generated as a singular linked list). The application should behave as follow:**

* **System should load item ID, name, description and price per item from a text file in to a linked list (items) and then it should display all loaded details on screen.**
* **After that user should be provided with four options, i.e. 0,1,2,3 in an iterative manner.**
* **If user presses 1, the system should ask user to enter item ID and quantity and should add it into the cart.**
* **If user presses 2, the system should ask for item ID and then it should delete that item from the cart.**
* **If user presses 3, list of items with item ID, name, description and price per item should be displayed again.**
* **If user presses 0, the system should generate bill containing selected item, quantity, price per item and total amount to pay.**

**Note:**

1. **For this application you need to create a text file containing items detail (one item per line).**
2. **Both linked lists (items and cart) must be of type <item>.**