

Object Oriented Programming

Lab Task 05

1. Suppose you are designing a program to model a grocery store's inventory. Each item has a unique ID, a name, a price, and a quantity.

Design a class for representing an item in the grocery store's inventory. The class should have getter and setter methods where needed. It should also have a method for displaying the item's details. Additionally, implement a constructor that takes arguments for the item's ID, name, price, and quantity and sets them in the object. Make a default constructor too. And also a destructor (which prints the message object destroyed).

The program should first ask the user to enter the total no of items to store, then create an array of Items of that size in main. The main should be a menu-driven program with the following choices:

- 1). Display Items
- 2). Update item details
- 3). Search for items by ID

The above methods should be declared outside the class.

There must be functions for all the operations. `Display_items()` takes the array of objects and should display all the items with their details(ID, Name, Price, Quantity).

2). `UpdateItem()` should take the item as an argument and further ask whether to update the price or the quantity. And do accordingly in the function. Think whether it should be pass by value or reference.

3). Search for items by ID should take array of items, size, and the ID_NO. If the item is found, display its details, else display "item not found".

2. Suppose you are designing a program to manage a company's employee database. Each employee has a unique ID, a name, a job title, and no of hours worked per week. In main ask the user to enter the no of employees and then create an array of that no of employees and initialize their values. Your class must use getter and setter methods where required. The class must have a method named `calc_Salary()`

Now calculate the salary of each employee based on the following details:

If the no of hours worked of that employee is less than or equal to 40, the salary would be hours worked multiplied by the hourly rate. If the no of hours worked is greater than 40, then he will get an overtime. The pay for the overtime hours is double than what he gets for the base hours. For that calculate the extra hours worked and calculate the pay only for the overtime and add it to the base pay. Do this for all the employees and display the name and salary of all the employees.