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**Roll Number: 45**

**Experiment Number: 16**

**Title: Product Management**

**Theory:**  The code defines a Product class representing a retail product with ID, quantity, price, and name, and then creates an array of products based on user input, displaying their details. The product IDs are automatically assigned starting from 11101 (A better method could be creating an ID using a random generator).

**Code:**

**#include "iostream"**

**using namespace std;**

**class Product {**

**private:**

**int productID, quantityInStock;**

**float price;**

**string productName;**

**public:**

**Product() {**

**productID = 0;**

**quantityInStock = 0;**

**price =0.00;**

**productName="null";**

**}**

**Product(int prdID, int qInS, float p, string prdName) {**

**productID = prdID;**

**quantityInStock = qInS;**

**price = p;**

**productName = prdName;**

**}**

**void displayAll() {**

**cout << "Product ID: " << productID << endl;**

**cout << "Quantity: " << quantityInStock << endl;**

**cout << "Price: " << price << endl;**

**cout << "Product Name: " << productName << endl;**

**}**

**};**

**int main() {**

**int id, quantity;**

**float price;**

**string name;**

**int n;**

**cout << "Enter number of products: ";**

**cin >> n;**

**Product products[n];**

**for (int i = 0; i < n; i++) {**

**id=i+11101;**

**cout << "Product Name: ";**

**cin >> name;**

**cout << "Quantity: ";**

**cin >> quantity;**

**cout << "Price: ";**

**cin >> price;**

**products[i]= Product(id, quantity, price, name);**

**}**

**cout << "\nAll products:\n";**

**for (int j = 0; j < n; j++) {**

**products[j].displayAll();**

**cout << endl;**

**}**

**}**

**Output:(screenshot):**

