

# Project Ice Cream shop

Presented by Hira Iqbal

```
#include <iostream>
using namespace std;
// Base class (Encapsulation + Abstraction)
class User {
private:
    string name;
public:
    void setName(string n) { name = n; }
    string getName() { return name; }
    virtual void role() { cout << "General user\n"; }
};
// Derived class for Customer
class Customer : public User {
private:
    int quantity;
    double price;
public:
    Customer() {
        quantity = 0;
        price = 0.0;
    }
    void placeOrder(int q, double p) {
        quantity = q;
```

```
price = p;
    cout << "\nOrder placed successfully!\n";
}
double calculateBill() {
    return quantity * price;
}
void role() override {
    cout << "Customer: Orders ice cream  \n";
}
void displayOrder() {
    cout << "Quantity: " << quantity << endl;
    cout << "Price per item: " << price << endl;
    cout << "Total Bill: " << calculateBill() << endl;
}
};
// Derived class for Admin
class Admin : public User {
public:
    void role() override {
        cout << "Admin: Manages system and orders.\n";
    }
};
```

```
int main() {  
    Customer c;  
    Admin a;  
    c.setName("Hira");  
    cout << "Customer Name: " << c.getName() << endl;  
    c.role();  
    int q;  
    double p;  
    cout << "\nEnter quantity of ice cream: ";  
    cin >> q;  
    cout << "Enter price per ice cream: ";  
    cin >> p;  
    c.placeOrder(q, p);  
    cout << "\n----- Order Summary ----- \n";  
    c.displayOrder();  
    cout << "\n\nNow showing admin info:\n";  
    a.setName("Admin Ali");  
    cout << "Admin Name: " << a.getName() << endl;  
    a.role();  
  
    return 0;  
}
```