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#include <iostream>
#include <vector>
#include <string>
using namespace std;

// Ingredient Class
class Ingredient {
private:
    string name;
    string quantity;

public:
    Ingredient() {}

    Ingredient(string name, string quantity) {
        this->name = name;
        this->quantity = quantity;
    }

    void display() const {
        cout << " - " << name << ": " << quantity << endl;
    }
};

// Recipe Class
class Recipe {
private:
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string title;
vector<Ingredient> ingredients;
string instructions;

public:
Recipe() {}

Recipe(string title, string instructions) {
this->title = title;
this->instructions = instructions;
}

void      addIngredient(const      Ingredient&
ingredient) {
ingredients.push_back(ingredient);
}

void display() const {
cout << "\nRecipe: " << title << endl;
cout << "Ingredients:\n";
for (const auto& ing : ingredients)
ing.display();
cout << "Instructions: " << instructions << endl;
}

string getTitle() const {
return title;
}

```

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}

};

// User Class
class User {
private:
string username;
vector<Recipe> savedRecipes;

public:
User(string name) {
username = name;
}

void saveRecipe(const Recipe& recipe) {
savedRecipes.push_back(recipe);
}

void showSavedRecipes() const {
cout << "\nSaved Recipes for " << username <<
":\n";
for (const auto& recipe : savedRecipes)
recipe.display();
}
};

// MealPlan Class

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class MealPlan {
private:
    string day;
    Recipe recipe;

public:
    MealPlan() {}

    MealPlan(string d, Recipe r) : day(d), recipe(r) {}

    void display() const {
        cout << "\nMeal Plan for " << day << ":\n";
        recipe.display();
    }
};

// Main function
int main() {
    User user("Alice");

    int numRecipes;
    cout << "How many recipes do you want to add?
    ";
    cin >> numRecipes;
    cin.ignore();

    for (int i = 0; i < numRecipes; i++) {

```

```
string title, instructions;
int numIngredients;

cout << "\nEnter recipe title: ";
getline(cin, title);

cout << "Enter instructions: ";
getline(cin, instructions);

Recipe recipe(title, instructions);

cout << "How many ingredients? ";
cin >> numIngredients;
cin.ignore();

for (int j = 0; j < numIngredients; j++) {
    string ingName, ingQty;
    cout << "Ingredient name: ";
    getline(cin, ingName);
    cout << "Ingredient quantity: ";
    getline(cin, ingQty);
    recipe.addIngredient(Ingredient(ingName,
    ingQty));
}

user.saveRecipe(recipe);
}
```

```
user.showSavedRecipes();

return 0;
}
<< day << ":\n";
recipe.display();
}
};

// Main function
int main() {
    User user("Alice");

    int numRecipes;
    cout << "How many recipes do you want to add?
    ";
    cin >> numRecipes;
    cin.ignore();

    for (int i = 0; i < numRecipes; i++) {
        string title, instructions;
```