```
Welcome to the Lunch Party Management System!

Menu:
1. Pizza - $9.99
2. Burger - $5.99
3. Salad - $3.99
4. Soda - $1.5

Enter the number of the item you want to include in the lunch (0 to finish): 1
Added Pizza to the lunch.

Enter the number of the item you want to include in the lunch (0 to finish): 2
Added Burger to the lunch.

Enter the number of the item you want to include in the lunch (0 to finish): 3
Added Salad to the lunch.

Enter the number of the item you want to include in the lunch (0 to finish): 0

Do you want to view the lunch summary? (y/n): y

Lunch Summary:
Number of Guests: 3
Total Cost: $19.97

Do you want to view the lunch summary? (y/n): n

Thank you for using the Lunch Party Management System!


...Program finished with exit code 0
Press ENTER to exit console.
```

Solution

```cpp
#include <iostream>
using namespace std;

int main() {
    // Menu items and their costs
    const char menu1 = 'P';
    const char menu2 = 'B';
    const char menu3 = 'S';
    const char menu4 = 'C';

    const double cost1 = 9.99;
    const double cost2 = 5.99;
    const double cost3 = 3.99;
    const double cost4 = 1.50;

    // Guest information
```

```cpp
    int numGuests = 0;
    double totalCost = 0;

    cout << "Welcome to the Lunch Party Management System!\n";

    // Displaying the Menu
    cout << "\nMenu:\n";
    cout << "1. " << menu1 << " - $" << cost1 << "\n";
    cout << "2. " << menu2 << " - $" << cost2 << "\n";
    cout << "3. " << menu3 << " - $" << cost3 << "\n";
    cout << "4. " << menu4 << " - $" << cost4 << "\n";

    // Managing Guest Attendance
    while (true) {
       // Get user's choice
       cout << "\nEnter the number of the item you want to include in the lunch (0 to
finish): ";
       int choice;
       cin >> choice;

       if (choice == 0) {
          break;  // Exit the loop if the user enters 0
       }

       if (choice < 1 || choice > 4) {
          cout << "Invalid choice. Please choose a number from the menu.\n";
          continue;  // Continue to the next iteration of the loop
       }

       // Update total cost and number of guests
       switch (choice) {
          case 1:
             totalCost += cost1;
             cout << "Added " << menu1 << " to the lunch.\n";
             break;
          case 2:
             totalCost += cost2;
             cout << "Added " << menu2 << " to the lunch.\n";
             break;
          case 3:
             totalCost += cost3;
             cout << "Added " << menu3 << " to the lunch.\n";
             break;
```

```cpp
        // Increment the number of guests
        numGuests++;
    }


    // Displaying Lunch Summary
    char viewSummary;

    do {
        cout << "\nDo you want to view the lunch summary? (y/n): ";
        cin >> viewSummary;

        if (viewSummary == 'y' || viewSummary == 'Y') {
            cout << "\nLunch Summary:\n";
            cout << "Number of Guests: " << numGuests << "\n";
            cout << "Total Cost: $" << totalCost << "\n";
        }

    } while (viewSummary == 'y' || viewSummary == 'Y');

    cout << "\nThank you for using the Lunch Party Management System!\n";

    return 0;
}
```

```
Do you have any special expenses to add? (y/n): y
Enter special expense amount: $11
Do you have any special expenses to add? (y/n): y
Enter special expense amount: $45
Do you have any special expenses to add? (y/n): n

Updated total trip expense: $112

Do you want to view the expense summary? (y/n): y
Your total trip expense is: $112
Do you want to view the expense summary? (y/n): n

Thank you for using the Trip Expense Tracker!


...Program finished with exit code 0
Press ENTER to exit console.
```

Solution:

```cpp
#include <iostream>
using namespace std;
int main() {
    int tripDays;

    // Get the number of days for the trip
cout << "Enter the number of days for your trip: ";
cin >> tripDays;

    double totalExpense = 0;

    // Using a for loop to track daily expenses
    for (int day = 1; day <= tripDays; ++day) {
        double dailyExpense;

        // Get the daily expense from the user
cout << "Enter expenses for Day " << day << ": $";
cin >> dailyExpense;

        totalExpense += dailyExpense; // Accumulate daily expenses
    }

    cout << "\nTotal trip expense: $" << totalExpense << "\n\n";
```

```cpp
    // Using a while loop to manage special expenses during the trip
    char addSpecialExpense;

    while (true) {
        cout << "Do you have any special expenses to add? (y/n): ";
        cin >> addSpecialExpense;

        if (addSpecialExpense == 'y' || addSpecialExpense == 'Y') {
            double specialExpense;

            // Get the special expense from the user
            cout << "Enter special expense amount: $";
            cin >> specialExpense;

            totalExpense += specialExpense; // Accumulate special expenses
        } else {
            break; // Exit the loop if no more special expenses
        }
    }

    cout << "\nUpdated total trip expense: $" << totalExpense << "\n\n";

    // Using a do-while loop to display a summary at the end
    char viewSummary;

    do {
        cout << "Do you want to view the expense summary? (y/n): ";
        cin >> viewSummary;

        if (viewSummary == 'y' || viewSummary == 'Y') {
            std::cout << "Your total trip expense is: $" << totalExpense << "\n";
        }

    } while (viewSummary == 'y' || viewSummary == 'Y');

    cout << "\nThank you for using the Trip Expense Tracker!\n";

    return 0;
}
```