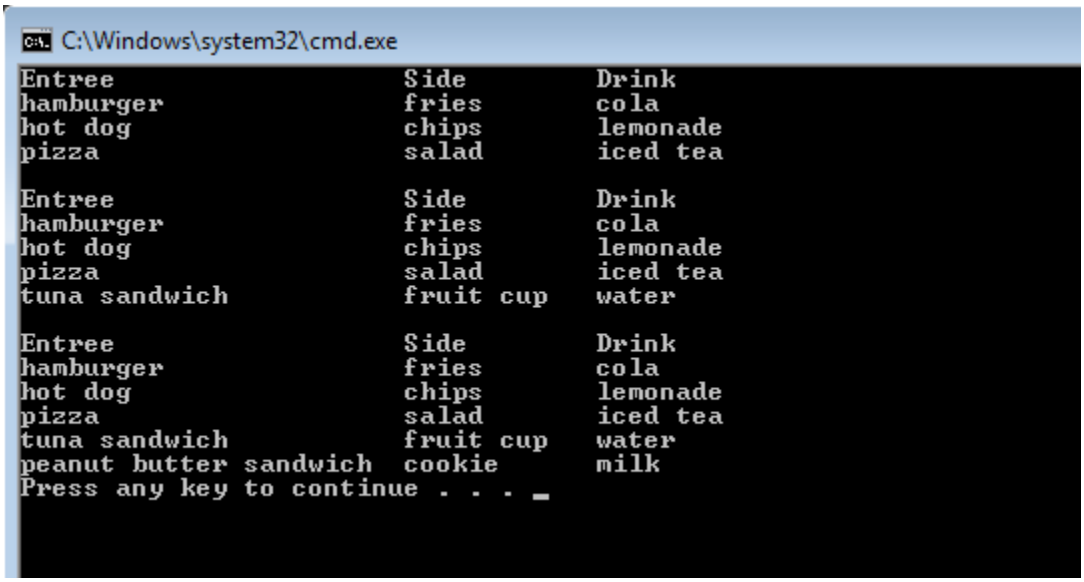
Programming Exercises

1. Create an application named **LunchDemo** that declares several `Lunch` objects and includes a display method to which you can pass different numbers of `Lunch` objects in successive method calls. The `Lunch` class contains auto-implemented properties for an entrée, side dish, and drink.



2. The store manager wants to know how much money and how many items have gone through all his cash registers today. Update or make a copy of the `CashRegister` class from Q2 last week to now have a two static variables, one to hold the total cash amount from all `CashRegister` objects the second to hold the total number of items from all `CashRegister` objects. Update the class as appropriate so these two new static variables are updated anytime any Cash Register handles an item. Output these total results.

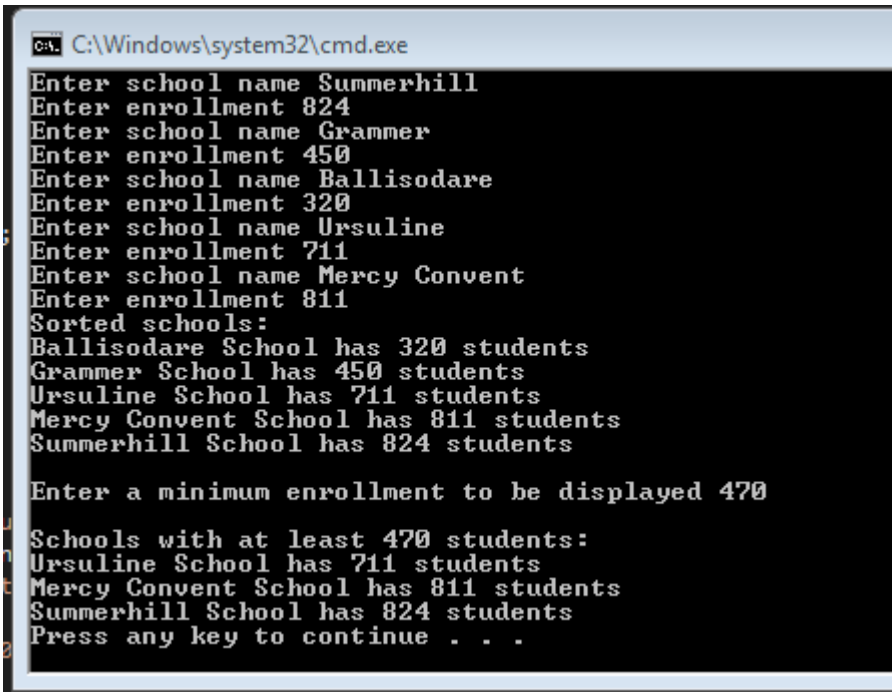
```
C:\Windows\system32\cmd.exe
Adding an item worth 2.70 to Cash Register 1
Adding an item worth 3.45 to Cash Register 1
Adding an item worth 5.97 to Cash Register 1
Adding an item worth 12.52 to Cash Register 2
Adding an item worth 1.43 to Cash Register 2
Adding an item worth 15.57 to Cash Register 2
Adding an item worth 5.15 to Cash Register 2
Cash Register CR1 Total: 12.12
Cash Register CR1 Number of Items: 3
Cash Register CR2 Total: 34.67
Cash Register CR2 Number of Items: 4

Total money from all cash registers: 46.79
Total items from all cash registers: 7
Press any key to continue . . .
```

3.

a. Create a program named **SchoolsDemo** that allows a user to enter data about five `School` objects and then displays the `School` objects in order of enrollment size from smallest to largest. The `School` class contains fields for the `School` name and number of students enrolled and properties for each field. Also, include an `IComparable.CompareTo()` method so that `School` objects can be sorted by enrollment.

```
C:\Windows\system32\cmd.exe
Enter school name Summerhill
Enter enrollment 824
Enter school name Ursuline
Enter enrollment 711
Enter school name Mercy Convent
Enter enrollment 811
Enter school name Grammer
Enter enrollment 450
Enter school name Ballisodare
Enter enrollment 320
Sorted schools:
Ballisodare School has 320 students
Grammer School has 450 students
Ursuline School has 711 students
Mercy Convent School has 811 students
Summerhill School has 824 students
Press any key to continue . . .
```

b. Create a program named **SchoolMinEnroll** that modifies the `SchoolsDemo` program created in Exercise 8a so that after the `School` objects are displayed in order, the program prompts the user to enter a minimum enrollment figure. Display all `School` objects that have an enrollment at least as large as the entered value.



4. a. Create a program named **FriendList** that declares an array of eight `Friend` objects and prompts the user to enter data about the friends. Display the `Friend` objects in alphabetical order by first name. The `Friend` class includes auto-implemented properties for the `Friend`'s name, phone number, and three integers that together represent the `Friend`'s birthday—month, day, and year.

   b. Create a **FriendBirthday** program that modifies the `FriendList` program created in part a so that after the list of `Friend` objects is displayed, the program prompts the user for a specific `Friend`'s name and the program returns the `Friend`'s phone number and birthday. Display an appropriate message if the friend requested by the user is not found.

   c. Create a program named **AllFriendsInSameMonth** that modifies the program in part b so that after the requested `Friend`'s birthday is displayed, the program also displays a list of every `Friend` who has a birthday in the same month.