101 學年度 Assignment 3

Description

- 本作業必須以「Microsoft Visual Studio 2010 Professional」完成，利用其它軟體完成者將不予計分。
- 開啟「Microsoft Visual Studio 2010」，新增一個「專案」，以你的學號及作業的題號作為專案名稱。例如你的學號為 s123456 且要寫的作業為 Assignment 1 的第 3 題，則你的專題名稱為「s123456_Assignment1_3」。
- 你的專案目錄可能被儲存在"C:\Documents and Settings\Administrator\My Documents\Visual Studio 2010\Projects\s123456_Assignment1_3" in XP 作業系統 or "C:\Users\Administrator\Documents\Visual Studio 2010\Projects\s123456_Assignment1_3" in Windows 7 作業系統。
- 在完成程式撰寫後，完成存檔並關閉 Microsoft Visual Studio 2010 Professional。重複上述動作，進行下一題的作業。
- 當完成所有作業，回到「Projects」目錄，選擇所有要上傳的目錄，例如「s123456_Assignment1_1」、「s123456_Assignment1_2」、「s123456_Assignment1_3」等，並將滑鼠壓在這些目錄上並按滑鼠右鍵，以「傳送到」選項下的壓縮功能進行壓縮，壓縮後將得到此一作業的壓縮檔，例如 s123456_Assignment1_1.zip。之後將此一壓縮檔的檔名改為 s123456.zip，並上傳該檔至虛擬教室。
- 若繳交的內容(含檔案命名方式，目錄名稱)與指定的內容不合，將不被評分。

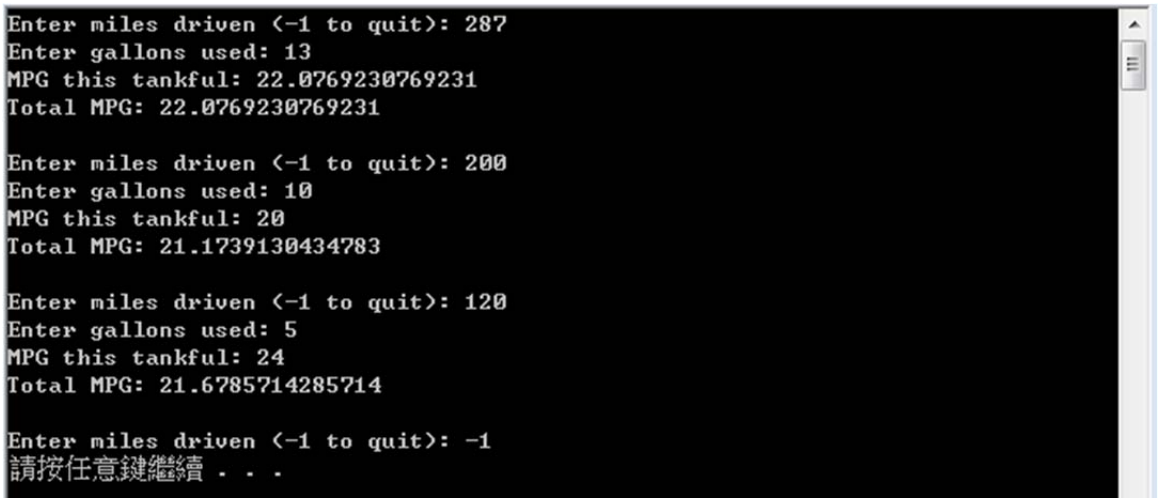
1. Drivers are concerned with the mileage obtained by their automobiles. One driver has kept track of several tankfuls (滿槽) of gasoline by recording miles driven and gallons used for each tankful. Develop a C# program that uses a while statement to input the miles driven and gallons used for each tankful.

```
Enter miles driven (-1 to quit):
Enter gallons used:
```

The program should calculate and display the miles per gallon (MPG) obtained for each tankful and print the combined miles per gallon obtained for all tankfulls up to this point.

```
MPG this tankful: XX.XXX
Total MPG: XX.XXX
```

The following screens show examples.



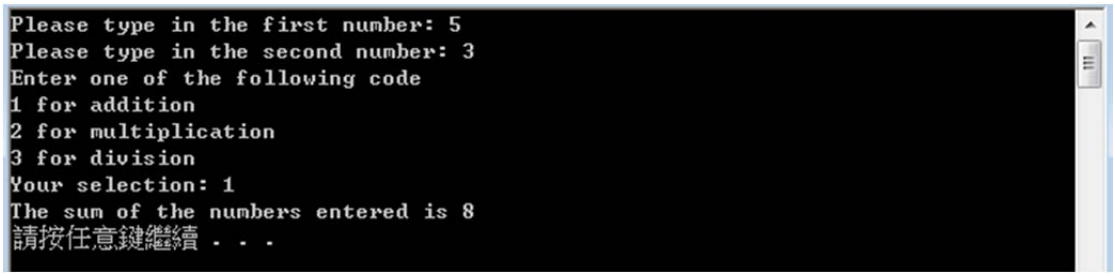
2. The process of finding the largest number (i.e., the maximum of group of numbers) is used frequently in computer applications. For example, a program that determines the winner of a sales contest inputs the number of units sold by each salesperson. The salesperson who sells the most units wins the contest. Write a C# program that uses a while statement to determine and print the largest number of 10 numbers input by the user. Your program might use three variables, as follows:
counter: A counter to count to 10 (i.e., to keep track of how many numbers have been input and to determine when all 10 numbers have been processed)
number: The current number input to the program.
largest: The largest number found so far.

The following screens show examples.

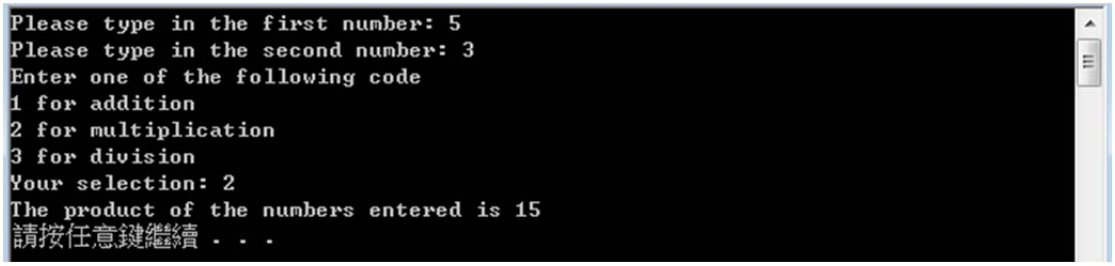
3. Write, compile, and run a C# program that uses a switch statement to select the arithmetic operation (addition, multiplication, or division) to perform on two numbers. Your program should display the following prompts:

```
Please type in the first number: xxx
Please type in the second number: xxx
Enter one of the following code
1 for addition
2 for multiplication
3 for division
You selection: x
```

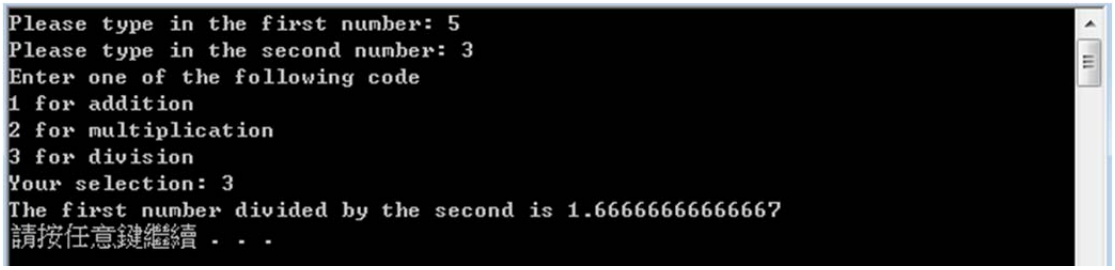
Example for selecting 1 (addition)



Example for selecting 2 (multiplication)



Example for selecting 3 (division)



4. Write, compile, and run a C# program to reverse the digits of a positive integer number. For example, if the number 8735 is entered, the number displayed should be 5378. (Hint: Use a do-while statement and continuously strip off and display the number's units digit. If the variable num initially contains the number entered, the units digit is obtained as (num % 10)). After a units digit is displayed, dividing the number by 10 sets up the number for the next iteration. Therefore, (8735 % 10) is 5 and (8735 / 10) is 873. The do-while statement should continue as long as the remaining number is not 0.