Introduction to Computers and Programming LAB-4 2014/10/08

- ✧ You cannot use **Selection Statements** (if, else …) or **Iteration Statements** (for, while) even if you have learned them.
- ✧ Your output must be in our sample output format.

1. Write a program that asks the user to enter the number from 1 to 16 (in any order) and then displays the numbers in a 4 by 4 arrangement, followed by the sums of the rows, columns, and diagonals.

```
Please enter:1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
 1  2  3  4
 5  6  7  8
 9 10 11 12
13 14 15 16
sum of row: 10 26 42 58
sum of column: 28 32 36 40
sum of diagonal: 34 34
```

2. The International Standard Book Number (ISBN) is a unique book identifier code created by Gordon Foster in 1965.

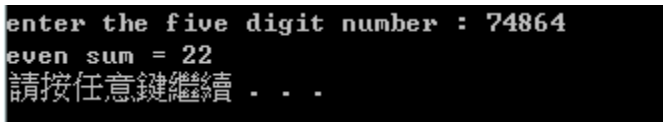
   An ISBN consists of 5 parts:
   (1) The first part is book identification code and it's usually 978.
   (2) The second part identifies the registration group. For example, the group identifier of Taiwan is "957" and "986".
   (3) The third part identifies the publisher. There are two to five digits.
   (4) The forth part identifies the title. There are also two to five digits.
   (5) The last part is a check digit of this ISBN.

   Here's a method of computing the check digit:
   (1) Using the formula $s = x_1 + 3x_2 + x_3 + 3x_4 + x_5 + 3x_6 + x_7 + 3x_8 + x_9 + 3x_{10} + x_{11} + 3x_{12}$ to calculate sum.
   (2) Compute the remainder when the sum is divided by 10.
   (3) Subtract the remainder from 10.

   For example, an ISBN is 978-0-393-97950-3.
   $s = 9x1 + 7x3 + 8x1 + 0x3 + 3x1 + 9x3 + 3x1 + 9x3 + 7x1 + 9x3 + 5x1 + 0x3 = 137$
   $\text{remainder} = s \bmod 10 = 7$
   $\text{check point} = 10 - 7 = 3$

```
Enter an ISBN(except 978): 039397950
Check digit: 3
請按任意鍵繼續 . . .
```

3. (Bonus) Write a program in which you will enter a five digit number. The program will find sum of the even numbers.



Hint: Try to think of the difference between odd numbers and even numbers.