HW1 作業說明

繳交期限: 上課前(10/7)

紙本作業: 上課(10/7)繳交，最上面請註明學號跟姓名(詳細格式請參照課程網頁)

程式繳交: (詳細格式請參照課程網頁)

題目:

第一題

7. Write a program that asks the user to enter a U.S. dollar amount and then shows how to pay that amount using the smallest number of $20, $10, $5, and $1 bills:

```
Enter a dollar amount: 93

$20 bills: 4
$10 bills: 1
 $5 bills: 0
 $1 bills: 3
```

Hint: Divide the amount by 20 to determine the number of $20 bills needed, and then reduce the amount by the total value of the $20 bills. Repeat for the other bill sizes. Be sure to use integer values throughout, not floating-point numbers.

第二題

5. Write a program that asks the user to enter the numbers 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:

```
Enter the numbers from 1 to 16 in any order:
16 3 2 13 5 10 11 8 9 6 7 12 4 15 14 1

16  3  2 13
 5 10 11  8
 9  6  7 12
 4 15 14  1

Row sums: 34 34 34 34
Column sums: 34 34 34 34
Diagonal sums: 34 34
```

If the row, column, and diagonal sums are all the same (as they are in this example), the numbers are said to form a *magic square.* The magic square shown here appears in a 1514 engraving by artist and mathematician Albrecht Dürer. (Note that the middle numbers in the last row give the date of the engraving.)

第三題

6. Modify the `addfrac.c` program of Section 3.2 so that the user enters both fractions at the same time, separated by a plus sign:

```
Enter two fractions separated by a plus sign: 5/6+3/4
The sum is 38/24 (依老師要求,請記得約分)
```

PS1: output 結果請遵循題目中的格式和排版,如果太亂會斟酌扣分

PS2: 第三題請依老師上課要求,請約成最簡分數

PS3: 請繳交作業同學注意作業格式上的相關規定,否則斟酌扣分,或不予計分!!