HW10

作業繳交方式：上傳 iLearning3

※本作業只要上傳檔案 Q1.c, Q2.c

1. (50%) Program Q1.c

   Calculate the sum of two weird numbers.

   Definition of weird number :

   a. It is a string contains up to 20 characters.
   b. It contains at least 1 digit and at most 8 digits.
   c. The value of it is defined as a positive integer that all non-digit character are stripped form the string.
   d. Example weird number:
      The correspondence positive integer of "`sd304s5sx4;`" is `30454`
      The correspondence positive integer of "`sd34s-55sx+6X`" is `34556`
      The correspondence positive integer of "`2XX33y-7-Ug5Gv9vd`" is `233759`

   Write a C program that reads in two weird numbers and calculate the sum of them.

   The screen dialog should appear as follows:

```
Enter two weird numbers: sd34s-55sx+6X 2XX33y-7-Ug5Gv9vd
The first weird number is sd34s-55sx+6X and its value is 34556.
The second weird number is 2XX33y-7-Ug5Gv9vd and its value is 233759.
The sum of sd34s-55sx+6X and 2XX33y-7-Ug5Gv9vd is 268315.
```

   Hint :

   https://www.cplusplus.com/reference/cctype/?kw=cctype

2. (50%) Program Q2.c

   Write a C program to sort the following integer array.

```
int a[] = { 2, 6, 4, 8, 10, 12, 89, 68, 45, 37 };
```

   Please note that the `main` program calls the function `bubbleSort()` to sort the array, while `bubbleSort()` calls the function `swap()` to exchange the values of the two variables. The prototype of `bubbleSort()` and `swap()` are as follow :

```
void bubbleSort( int *array, int size);
void swap( int *a, int *b);
```

   The screen should appear as follows:

```
Data items before sorting
   2   6   4   8  10  12  89  68  45  37
Data items after sorting
  89  68  45  37  12  10   8   6   4   2
```