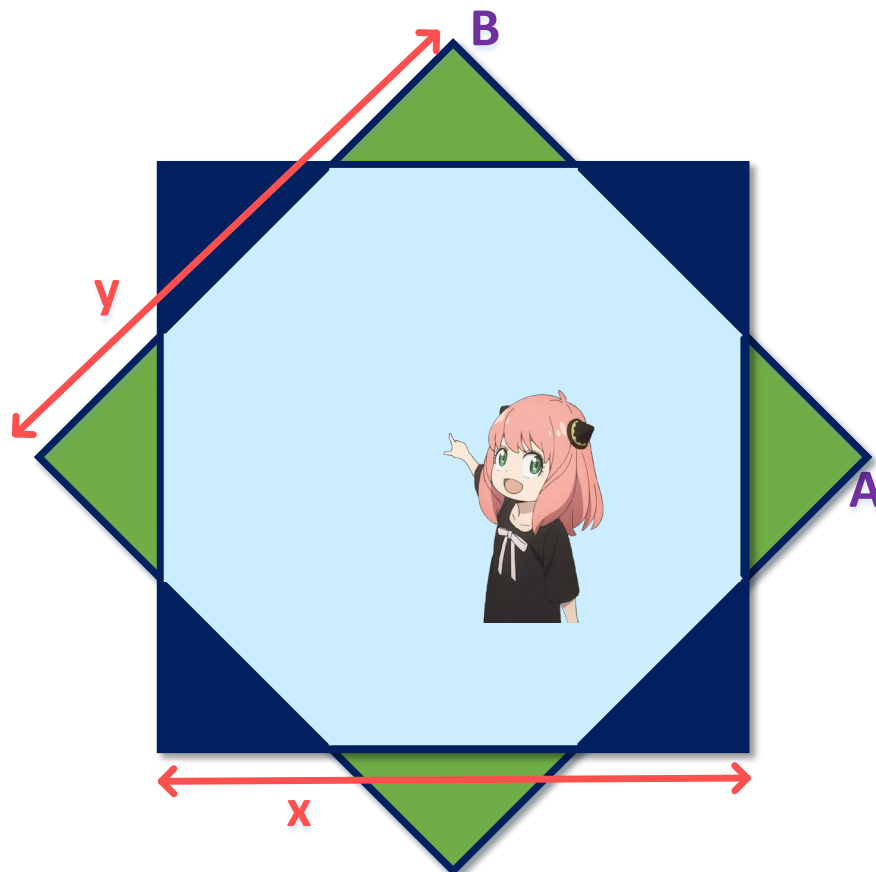


Lab 09/20

Please do not use math functions, loop, if/else, and array in this Lab.

1. "Twilight" Loid Forger wants to build a "spy park" for Anya. The following figure is the planning map of the spy park with two squares. The light blue is the "wakuwaku lake", the green region is the forest, and the dark blue is the spy base. In addition, Anya wants to build a secret base at the center of wakuwaku lake, Yor want to build a training ground at point A, and Twilight want to build a spy base at point B. Twilight only knows the lengths of x and y shown in the figure. Suppose the coordinate of left-bottom corner of the spy park is (0, 0). Please implement a program to help Twilight calculate some information of the spy park, including the area of all forest, the area of the spy base, the perimeter of the wakuwaku lake, the coordinate of the center of the wakuwaku lake, and the coordinates of corners A and B. Note: $\sqrt{2} = 1.41421356237$



Input/Output Example

```
Input lengths of x and y => 10.8787 14.47878  
  
Coordinate of center of wakuwaku lake: (5.439350, 5.439350)  
Coordinate of corner A: (15.677394, 5.439350)  
Coordinate of corner B: (5.439350, 15.677394)  
Area of forest: 92.109838  
Area of spy base: 0.820881  
Perimeter of wakuwaku lake: 42.013648  
  
-----  
Process exited after 13.55 seconds with return value 0  
請按任意鍵繼續 . . .
```

2. Please implement a NYCU ID Card maker to let user input basic information with different data types and then complete the IC Card as the example. Please use `scanf()` and `printf()` to implement it, and **make sure your code has suitable indentations.**

Note:

$$*BMI = \frac{weight}{height^2}$$

*Standard weight: (height(cm)-75)x65%

To print out "\", you have to use "\\".

Input/Output Example:

```
Input ID (int): 111987987
Input first letter of last name (char): F
Input first letter of first name 1 (char): A
Input first letter of first name 2 (char): Y
Input sex (char): F
Input birthday (long): 20041212
Input height (float): 100.45678
Input weight (double): 100.321

***** NYCU ID Card *****
* (\_/) * ID 111987987
* ( O_O) * NAME
* />  > * A.-Y. F.
*****
SEX:F  BIRTHDAY:20041212
HEIGHT:100.456779CM
WEIGHT:100.321000(16.546907)KG
BMI:99.410760
*****
-----
Process exited after 27.02 seconds with return value 0
請按任意鍵繼續 . . .
```

3. Please let user input three long integers x and y, and do operation of +, -, *, /, %. In addition, print out difference of the last two digits of z, and the average of x, y, and z. Please use `scanf()` and `printf()` to implement it, and **make sure your code has suitable indentations.**

Input/Output Example:

```
Input x, y, z => 4316876 6197 316491359

4316876+6197 = 4323073
4316876-6197 = 4310679
4316876*6197 = 981876796
4316876/6197 = 696 ... 3764
Difference of the last two digits of 316491359 = -4
Average of 4316876, 6197, 316491359 = 106938144

-----
Process exited after 13.15 seconds with return value 0
請按任意鍵繼續 . . .
```