Homework   9

1. Write a subroutine order:

```
n1 ─────────→ ┌──────────┐ ─────→ n1
              │  order   │
n2 ─────────→ └──────────┘ ─────→ n2
```
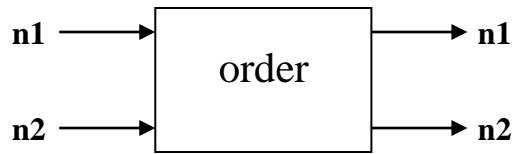
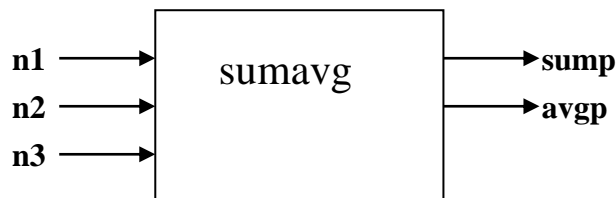**n1, n2 : <u>call by address</u>**

After the calling and execution of order:
The <u>smaller</u> of its two argument values <u>is stored in its first actual parameter</u>
and the larger is stored <u>in its second actual parameter</u>.

2. Write a subroutine sumavg that has three type double input parameters n1, n2, n3 and two output parameters sump, avgp.
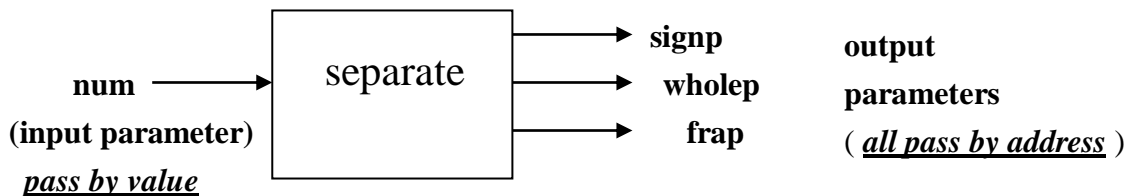
```
n1 ─────→ ┌──────────┐ ─────→ sump
n2 ─────→ │  sumavg  │ ─────→ avgp
n3 ─────→ └──────────┘
```

(Actually subroutine sumavg has <u>five parameters:</u>
    n1, n2, n3: <u>passed by value</u>
    sump, avgp: <u>passed by address</u>)

The subroutine computes the sum and average of its three input arguments.

3. Write a subroutine separate:

```
                    ┌──────────┐ ─────→ signp        output
num ───────────────→│ separate │ ─────→ wholep       parameters
(input parameter)   └──────────┘ ─────→ frap         ( all pass by address )
  pass by value
```

Function separate finds the sign, whole number magnitude, and fractional parts of its input parameter num. (可使用 math.h 之 function)
<u>Prototype for separate:</u>
  void separate(double num,   **// input value to be split**
              char * signp,   **// output -- sign of num**
              int * wholep   **// output – whole number magnitude of num**
              double * fracp) // output – fractional part of num

4. (加分題，可以不寫) This is an extra point question, you may not write.

   Write a function that translates the amount of Arabic number into Chinese representation:

   EX1: 7609802　------　柒佰陸拾萬玖仟捌佰零貳元整
   EX2: 1009040300 -----拾億玖百零肆萬三佰元整

5. (**加分題，可以不寫**) This is an extra point question, you may not write.

   Write a program for an Automatic Teller Machine that dispenses money.(發錢功能)
   The user should enter the amount desired(a multiple of 10 dollars, 10 元的倍數)
   and the machine dispenses this amount using <u>the least number of bills</u>.
   The bills dispensed are 50s, 20s, and 10s. Write a function that determines how
   many of each kind of bill to dispense.