

## 창의적 소프트웨어 프로그래밍 Lab 2

Handed out : Thu, Sep 15, 2022

Due : Thu, Sep 15, 2022, 23:59 (NO SCORE for late submissions!)

Submit your file on LMS.

1. Write a program that works as follows.
  - A. Define a structure named Person that can store the name and age of a person.
  - B. Create a Person type array of length 3.
  - C. Take three names and ages from the user and stores them in each element of the array.
    - i. Assume that each name is one English word, less than 10 letters, and each age is an integer number larger than 0.
  - D. Print out the contents of the array.
  - E. **Input:** Three pairs of name and age
  - F. **Output:** The stored name and age in the array
  - G. Files to submit:
    - i. A C source file

```
$ ./array_struct_person
John 20↵
Amy 20↵
Emma 21↵
Name:John, Age:20
Name:Amy, Age:20
Name:Emma, Age:21
```

2. Complete the code skeleton below to write a program to manipulate a 2D point.
  - A. Create a variable (p1) of Point type (see the code skeleton below) and fill in the value of each member by taking two integers from user.
  - B. Then call getScale2xPoint() (see the code skeleton below) to get a Point p2 whose member value is twice as large as that of p1.

- C. Print out the value of p1 and p2.
- D. Swap the value of p1 and p2 using swapPoints() (see the code skeleton below).
- E. Print out the value of p1 and p2 again.
- F. Note that
  - i. The code for printing Point variables must be in main().
- G. **Input:** Two integer numbers
- H. **Output:** The value of p1 & p2 after calling getScale2xPoint() and swapPoints()
- I. Files to submit:
  - i. A C source file

```
$. ./point
1 2
Calling getScale2xPoint()
P1 : 1 2
P2 : 2 4
Calling swapPoint()
P1 : 2 4
P2 : 1 2
```

Code skeleton:

```
typedef struct
{
    int xpos;
    int ypos;
}Point;

Point getScale2xPoint(const Point* p){
    //Implement this function
}

void swapPoints(Point* p1, Point* p2){
    //Implement this function
}

int main(void){
    //Implement this function
}
```