

실습과제 #12 추가문제 정답

● Problem 1

- 1) 아래의 예제의 struct student 정의를 이용하여 요소의 개수가 3개인 struct point 타입 배열을 선언하고 키보드 입력으로 세 개의 데이터를 배열에 저장한 후, 화면에 출력한다. 입력과 출력시에는 반복문을 사용한다.
- 2) Struct student는 struct personal_info를 멤버변수로 갖는 중첩 구조체(Nested structures)이다.
- 3) 입출력 예제를 참고하여 동일한 결과가 출력되도록 한다.

```
struct student {  
    struct personal_info info;  
    char university[6];  
    char grade;  
    int level;  
};
```

```
struct personal_info  
{  
    char name[9];  
    char residence[6];  
    int age;  
};
```

```
minsu suwon 21 ajou A 3  
jihye suwon 21 ajou B 2  
gildong seoul 22 ajou A 1
```

Student List :

student 1 :

name : minsu, residence : suwon, age : 21, univ : ajou, grade : A, level : 3

student 2 :

name : jihye, residence : suwon, age : 21, univ : ajou, grade : B, level : 2

student 3 :

name : gildong, residence : seoul, age : 22, univ : ajou, grade : A, level : 1

입출력 함수를 사용하지 않은 case

```
#define _CRT_SECURE_NO_WARNINGS // scanf error 방지를 위한 부분
#include<stdio.h>
#include<string.h>

struct personal_info
{
    char name[9];
    char residence[6];
    int age;
};

struct student {
    struct personal_info info;
    char university[6];
    char grade;
    int level;
};

int main()
{
    struct student students[3];

    for (int i = 0; i < 3; i++)
    {
        scanf("%s %s %d %s %c %d", students[i].info.name, students[i].info.residence, &students[i].info.age,
students[i].university, &students[i].grade, &students[i].level);
    }

    printf("\nStudent List :\n");
    for (int i = 0; i < 3; i++)
    {
        printf("student %d : \n", i+1);
        printf("name : %s, residence : %s, age : %d, univ : %s, grade : %c, level : %d\n",
students[i].info.name, students[i].info.residence, students[i].info.age, students[i].university, students[i].grade,
students[i].level);
    }
}
```

입출력 함수를 사용한 case

```
#define _CRT_SECURE_NO_WARNINGS // scanf error 방지를 위한 부분
#include<stdio.h>
#include<string.h>

struct personal_info
{
    char name[9];
    char residence[6];
    int age;
};

struct student {
    struct personal_info info;
    char university[6];
    char grade;
    int level;
};

struct student get_student();
void print_student(struct student students);

int main()
{
    struct student students[3];

    for (int i = 0; i < 3; i++)
    {
        students[i] = get_student();
    }

    printf("\nStudent List :\n");
    for (int i = 0; i < 3; i++)
    {
        printf("student %d : \n", i + 1);
        print_student(students[i]);
    }
}

struct student get_student()
{
    struct student tmp;
    scanf("%s %s %d %s %c %d", tmp.info.name, tmp.info.residence, &tmp.info.age, tmp.university, &tmp.grade,
    &tmp.level);

    return tmp;
}

void print_student(struct student students)
{
    printf("name : %s, residence : %s, age : %d, univ : %s, grade : %c, level : %d\n", students.info.name,
students.info.residence, students.info.age, students.university, students.grade, students.level);
}
```