

## 과제 12 – 01

```
#include <stdio.h>
#include <stdlib.h>
#include <string.h>

struct Food {
    char name[50];
    int price;
};

int main(void) {
    struct Food food;

    char food_name[50];

    printf("Give the name of food: ");
    scanf("%s", food_name);
    memset(food.name, 0, strlen(food_name));
    strncat(food.name, food_name, sizeof(food_name));

    printf("Give the price of food: ");
    scanf("%d", &food.price);

    printf("%s (%d)", food.name, food.price);

    return 0;
}
```

● → 과제 12 git:(main) x ./task12-1

Give the name of food: Kimchi

Give the price of food: 10000

Kimchi (10000)%

○ → 과제 12 git:(main) x

○ → 과제 12 git:(main) x

## 과제 12 - 02

```
#include <stdio.h>
#include <stdlib.h>
#include <string.h>

struct Food {
    char name[50];
    int price;
};

int main(void) {
    struct Food food;

    int time;
    printf("How many foods do you have: ");
    scanf("%d", &time);

    char **food_name = (char **)malloc(time*(sizeof(char *)));
    int **food_price = (int **)malloc(time*(sizeof(int *)));

    for (int i=0; i<time; i++) {
        food_name[i] = (char *)malloc(50*sizeof(char *));
        food_price[i] = (int *)malloc(sizeof(int *));

        printf("Give the name of food (#%d): ", i+1);
        scanf("%s", food_name[i]);
        memset(food.name, 0, strlen(food_name[i]));
        strcat(food.name, food_name[i], sizeof(food_name[i]));

        printf("Give the price of food (#%d): ", i+1);
        scanf("%d", food_price[i]);
    }

    for (int j=0; j<time; j++) {
        printf("#%d: %s (%d)\n", j+1, food_name[j], *food_price[j]);
    }

    return 0;
}
```

```
● → 과제 12 git:(main) x ./task12-2
How many foods do you have: 3
Give the name of food (#1): Kimchi
Give the price of food (#1): 10000
Give the name of food (#2): Cheese
Give the price of food (#2): 5000
Give the name of food (#3): Hamburger
Give the price of food (#3): 50
#1: Kimchi (10000)
#2: Cheese (5000)
#3: Hamburger (50)
```

## 과제 12 - 03

```
#include <stdio.h>
#include <stdlib.h>
#include <string.h>

typedef struct Food {
    char name[50];
    int price;
} Food;

void swap(Food *food1, Food *food2) {
    char tmp_name[50] = {0, };
    int tmp_price;

    strcpy(tmp_name, food1->name);
    tmp_price = food1->price;

    strcpy(food1->name, food2->name);
    food1->price = food2->price;

    strcpy(food2->name, tmp_name);
    food2->price = tmp_price;
}

int main(void) {
    struct Food food1;
    struct Food food2;

    char food_name[50];

    printf("Give the name of food (#1): ");
    scanf("%s", food_name);
    memset(food1.name, 0, strlen(food_name));
    strncat(food1.name, food_name, sizeof(food_name));

    printf("Give the price of food (#1): ");
    scanf("%d", &food1.price);

    printf("Give the name of food (#2): ");
    scanf("%s", food_name);
    memset(food2.name, 0, strlen(food_name));
    strncat(food2.name, food_name, sizeof(food_name));

    printf("Give the price of food (#2): ");
    scanf("%d", &food2.price);

    swap(&food1, &food2);

    printf("#1: %s (%d)\n", food1.name, food1.price);
```

```
printf("#2: %s (%d)", food2.name, food2.price);
```

```
return 0;
```

```
}
```

● → 과제 12 git:(main) x ./task12-3

Give the name of food (#1): Kimchi

Give the price of food (#1): 10000

Give the name of food (#2): Cheese

Give the price of food (#2): 5000

#1: Cheese (5000)

#2: Kimchi (10000)%

## 과제 12 - 04

```
#include <stdio.h>
#include <stdlib.h>
#include <string.h>

typedef struct Menu {
    char name[50];
    int price;
} Menu;

void printMenu(int num, Menu *menu) {
    printf("#%d: %s (%d)\n", num, menu->name, menu->price);
}

int main(void) {
    int num;
    int total = 0;

    printf("How many foods do you have: ");
    scanf("%d", &num);

    Menu *menu = (Menu *)malloc(sizeof(Menu));

    for (int i=0; i<num; i++) {
        printf("Give the name of food (%d): ", i+1);
        scanf("%s", menu[i].name);
        printf("Give the price of food (%d): ", i+1);
        scanf("%d", &menu[i].price);
    }

    printf("<Menu>\n");

    for (int j=0; j<num; j++) {
        printMenu(j+1, &menu[j]);
        total += menu[j].price;
    }
    printf("Total: %d", total);

    return 0;
}
```

```
● → 과제 12 git:(main) x ./task12-4
How many foods do you have: 3
Give the name of food (#1): Kimchi
Give the price of food (#1): 10000
Give the name of food (#2): Cheese
Give the price of food (#2): 5000
Give the name of food (#3): Hamburger
Give the price of food (#3): 3000
<Menu>
#1: Kimchi (10000)
#2: Cheese (5000)
#3: Hamburger (3000)
Total: 18000
```