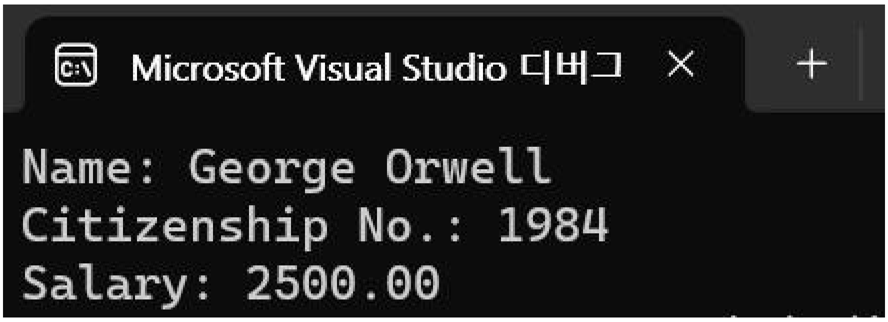
2019313550_박병현

실습 1.

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

// create struct with person1 variable

struct Pserson {
	char name[50];
	int citNo;
	float salary;
} person1;

int main() {
	// assign value to name of person1
	strcpy_s(person1.name, 50, "George Orwell");
	// assign values to other person1 variables
	person1.citNo = 1984;
	person1.salary = 2500;
	// print struct variables
	printf("Name: %s\n", person1.name);
	printf("Citizenship No.: %d\n", person1.citNo);
	printf("Salary: %.2f", person1.salary);

	return 0;
}
```

실습 1 실행 화면.



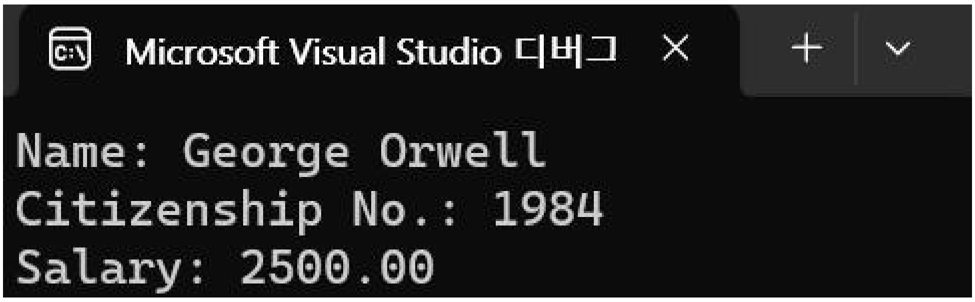
```
Name: George Orwell
Citizenship No.: 1984
Salary: 2500.00
```

2019313550_박병현

실습 2.

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

// create struct with person1 variable

typedef struct Pserson {
	char name[50];
	int citNo;
	float salary;
} person;

int main() {
	// create Person variable
	person p1;

	// assign value to name of p1
	strcpy_s(p1.name, 50, "George Orwell");

	// assign values to other person1 variables
	p1.citNo = 1984;
	p1.salary = 2500;

	// print struct variables
	printf("Name: %s\n", p1.name);
	printf("Citizenship No.: %d\n", p1.citNo);
	printf("Salary: %.2f", p1.salary);

	return 0;
}
```

실습 2 실행 화면.



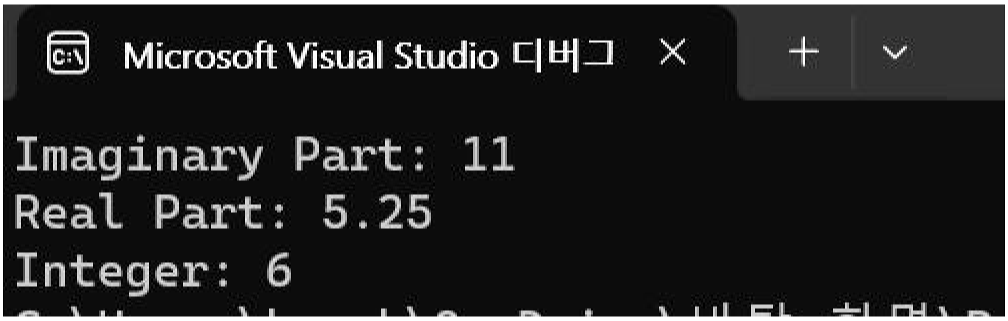
```
Name: George Orwell
Citizenship No.: 1984
Salary: 2500.00
```

2019313550_박병현

실습 3.

```
#include <stdio.h>

struct complex {
        int imag;
        float real;
};

struct number {
        struct complex comp;
        int integer;
};

int main() {

        struct number num1;

        // initialize complex variables
        num1.comp.imag = 11;
        num1.comp.real = 5.25;

        // initialize number variable
        num1.integer = 6;

        // print struct variables
        printf("Imaginary Part: %d\n", num1.comp.imag);
        printf("Real Part: %.2f\n", num1.comp.real);
        printf("Integer: %d", num1.integer);
}
```

실습 3 실행 화면.



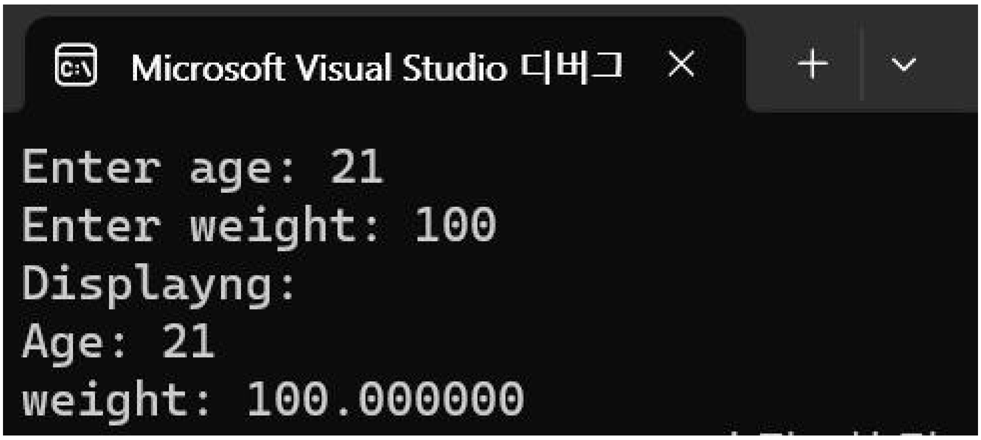
```
Imaginary Part: 11
Real Part: 5.25
Integer: 6
```

2019313550_박병현

실습 4.

```c
#include <stdio.h>

struct person {
	int age;
	float weight;
};

int main() {
	struct person* personPtr, person1;
	personPtr = &person1;

	printf("Enter age: ");
	scanf("%d", &personPtr->age);

	printf("Enter weight: ");
	scanf("%f", &personPtr->weight);

	printf("Displayng:\n");
	printf("Age: %d\n", personPtr->age);
	printf("weight: %f", personPtr->weight);

	return 0;
}
```

실습 4 실행 화면.



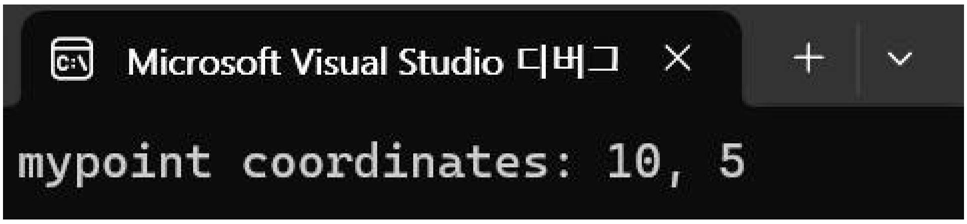
```
Enter age: 21
Enter weight: 100
Displayng:
Age: 21
weight: 100.000000
```

2019313550_박병현

실습 5.

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

typedef struct {
    int x;
    int y;
} point;

int main() {
    point* mypoint = NULL;
    /* Dynamically allocate a new point struct which mypoint points to here*/
    mypoint = (point*)malloc(sizeof(point));

    mypoint->x = 10;
    mypoint->y = 5;

    printf("mypoint coordinates: %d, %d\n", mypoint->x, mypoint->y);
    free(mypoint);
    return 0;
}
```

실습 5 실행 화면.



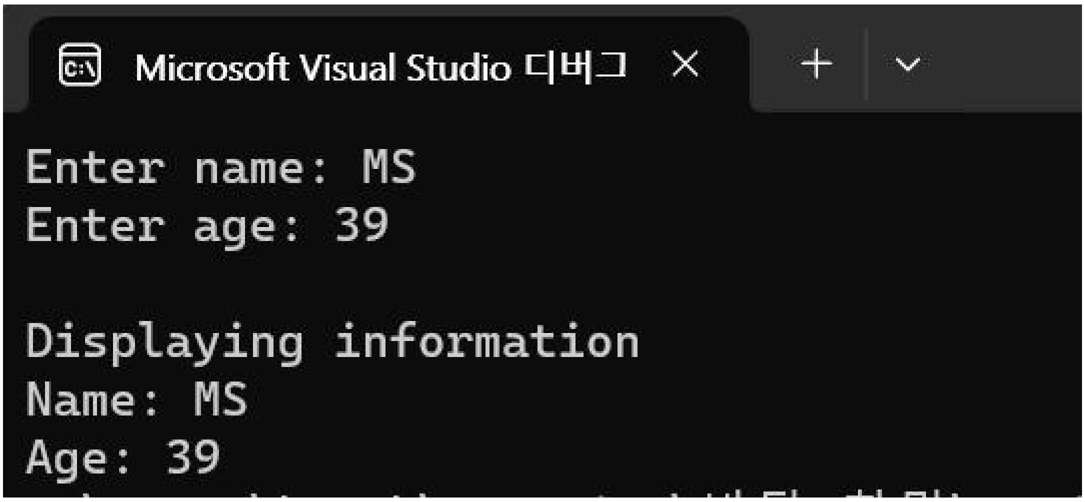
```
mypoint coordinates: 10, 5
```

2019313550_박병현

실습 6.

```
#include <stdio.h>
struct student {
    char name[50];
    int age;
};

// function prototype
void display(struct student s);

int main() {
    struct student s1;

    printf("Enter name: ");
    scanf("%s", s1.name, sizeof(s1.name));
    printf("Enter age: ");
    scanf("%d", &s1.age);
    display(s1); // passing struct as an argument

    return 0;
}

void display(struct student s) {
    printf("\nDisplaying information\n");
    printf("Name: %s", s.name);
    printf("\nAge: %d", s.age);
}
```

실습 6 실행 화면.



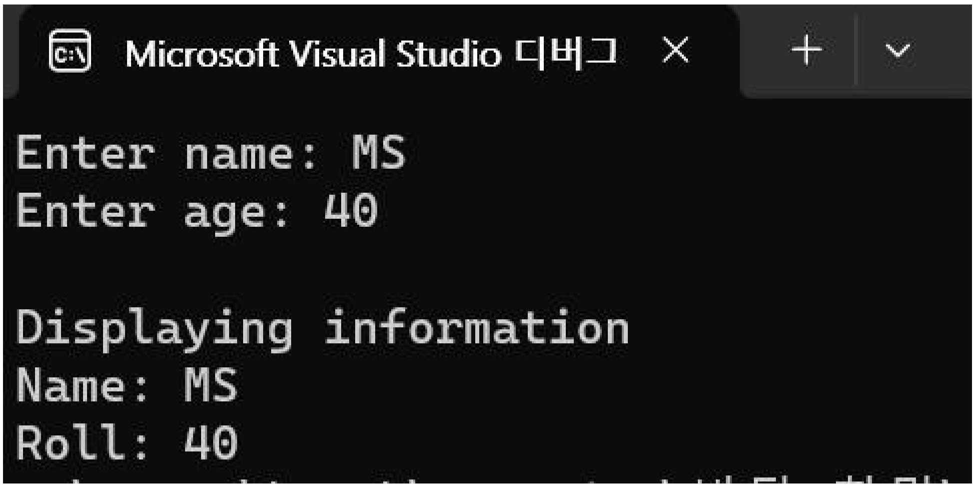
```
Enter name: MS
Enter age: 39

Displaying information
Name: MS
Age: 39
```

2019313550_박병현

실습 7.

```
#include <stdio.h>
struct student {
    char name[50];
    int age;
};

// function prototype
struct student getinformation();

int main() {
    struct student s;
    s = getinformation();
    printf("\nDisplaying information\n");
    printf("Name: %s", s.name);
    printf("\nRoll: %d", s.age);
    return 0;
}

struct student getinformation() {
    struct student s1;

    printf("Enter name: ");
    scanf("%s", s1.name, sizeof(s1.name));
    printf("Enter age: ");
    scanf("%d", &s1.age);
    return s1;
}
```

실습 7 실행 화면.



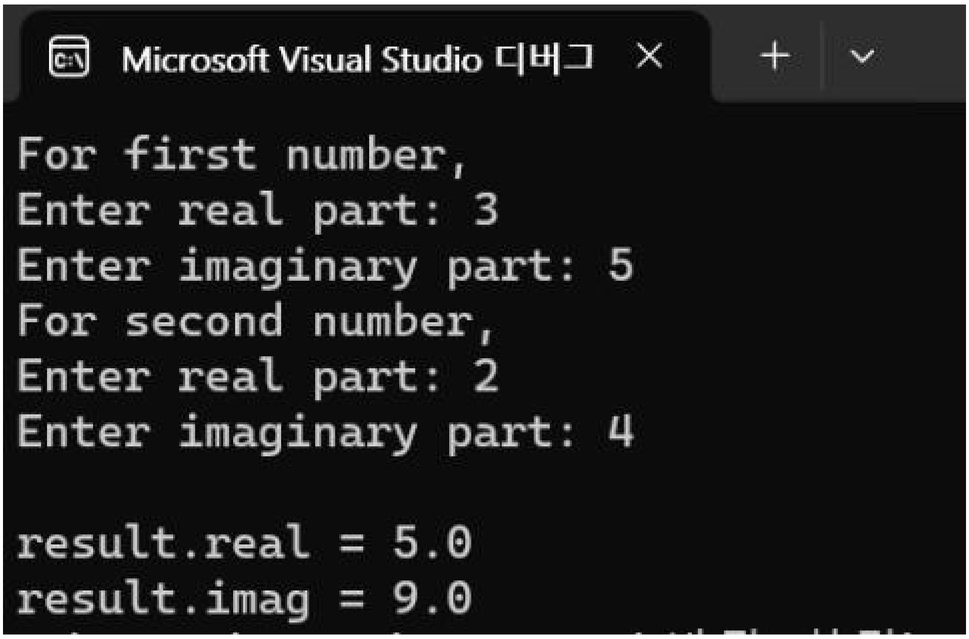
```
Enter name: MS
Enter age: 40

Displaying information
Name: MS
Roll: 40
```

2019313550_박병현

실습 8.

```
#include <stdio.h>
typedef struct Complex{
    float real;
    float imag;
} complex;

void addNumbers(complex c1, complex c2, complex* result)
{
    result->real = c1.real + c2.real;
    result->imag = c1.imag + c2.imag;
}
int main(){
    complex c1, c2, result;

    printf("For first number,\n");
    printf("Enter real part: ");
    scanf("%f", &c1.real);
    printf("Enter imaginary part: ");
    scanf("%f", &c1.imag);

    printf("For second number, \n");
    printf("Enter real part: ");
    scanf("%f", &c2.real);
    printf("Enter imaginary part: ");
    scanf("%f", &c2.imag);

    addNumbers(c1, c2, &result);
    printf("\nresult.real = %.1f\n", result.real);
    printf("result.imag = %.1f", result.imag);

    return 0;
}
```

실습 8 실행 화면.



```
For first number,
Enter real part: 3
Enter imaginary part: 5
For second number,
Enter real part: 2
Enter imaginary part: 4

result.real = 5.0
result.imag = 9.0
```