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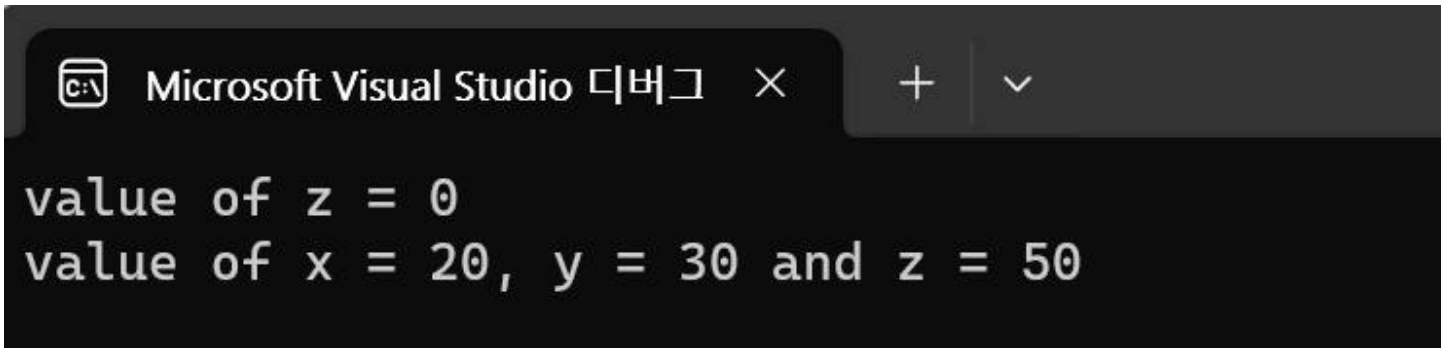
실습 1.

```c
#include <stdio.h>
//global variable definition
int z;

int  main() {
    printf("value of z = %d \n", z);

    //local variable definition and initialization
    int x, y;

    // cause complie error!
    // printf("value of x = %d, y = %d \n", x, y);

    //actual initialization
    x = 20;
    y = 30;
    z = x + y;
    printf("value of x = %d, y = %d and z = %d\n", x, y, z);

    return 0;
}
```

실습 1 실행 화면.



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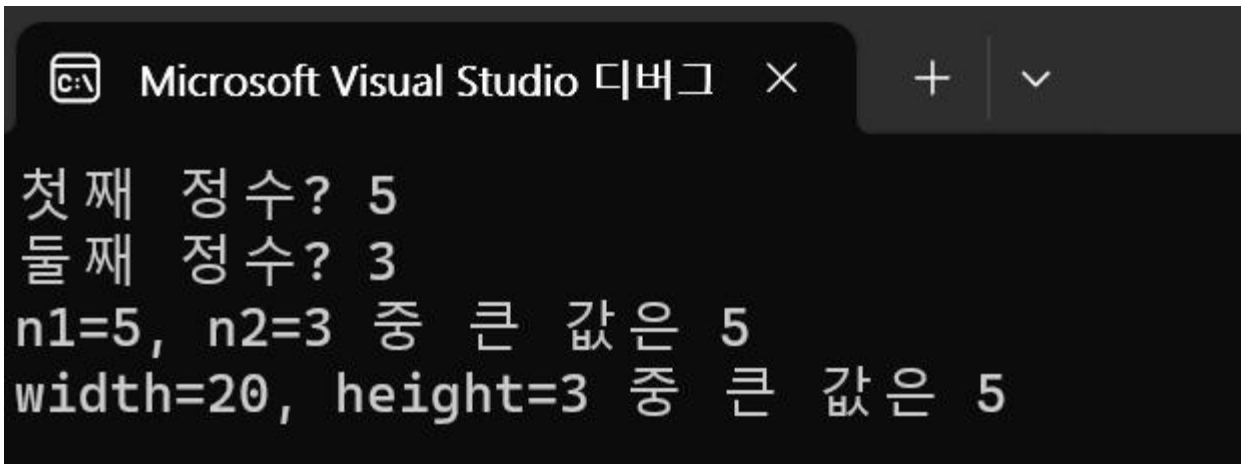
실습 2.

```c
#include <stdio.h>

int find_larger(); // 함수 원형 선언
int n1, n2, max; // 전역 변수 선언

int main() {
    int width, height; //main의 지역 변수 선언
    printf("첫째 정수? "); scanf("%d", &n1);
    printf("둘째 정수? "); scanf("%d", &n2);

    // 전역 변수 n1과 n2 중 큰 값을 구하여 max에 저장하기
    max = find_larger();
    printf("n1=%d, n2=%d 중 큰 값은 %d \n", n1, n2, max);

    // main의 width와 height 중 큰 값을 구하여 ma에 저장하기
    width = n1 * 4;
    height = n2;
    max = find_larger();
    printf("width=%d, height=%d 중 큰 값은 %d\n", width, height, max);

    return 0;
}

//전역 변수 n1과 n2 중 큰 값을 반환하는 함수
int find_larger() {
    if (n1 > n2)
        return n1;
    else
        return n2;
}
```

실습 2 실행 화면.



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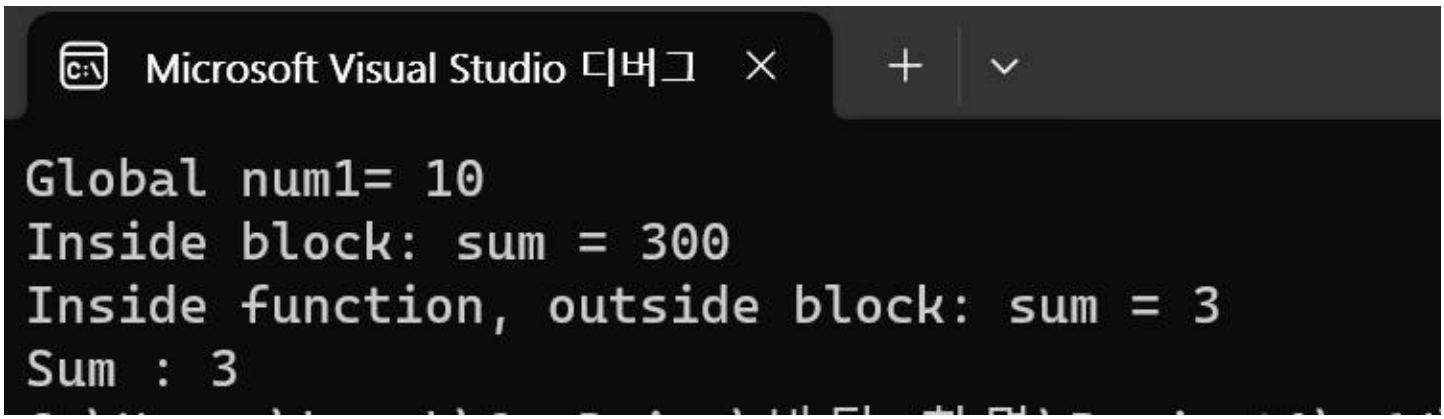
실습 3.

```c
/* program to illustrate name hiding and scope resolution */
#include<stdio.h>

/* global variables */
int num1 = 10;

/* This function takes two int arguments, and returns an int. */
int add_integers(int int1, int int2) {

	int sum = int1 + int2;
	{
		//begining of block scope
		int sum = 300;
		printf("Inside block: sum = %d \n", sum);
	} //end of block scope; sum goes out of scope
	printf("Inside function, outside block: sum = %d \n", sum);
	return sum;
} //end of function; int1, int2, sum goes out of scope

/* A function that calls add_integers() */
void caller_function(void) {
	int num1 = 1, num2 = 2, result; //num1 supresses global num1
	result = add_integers(num1, num2); /* result =3 */
	printf("Sum : %d", result);
}

int main() {
	printf("Global num1= %d \n", num1); //prints global value of int1 i.e. 10
	caller_function();
	return 0;
}
```

실습 3 실행 화면.



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실습 4.

ex_header.h 코드

```
#pragma once
extern int extern_test;
```

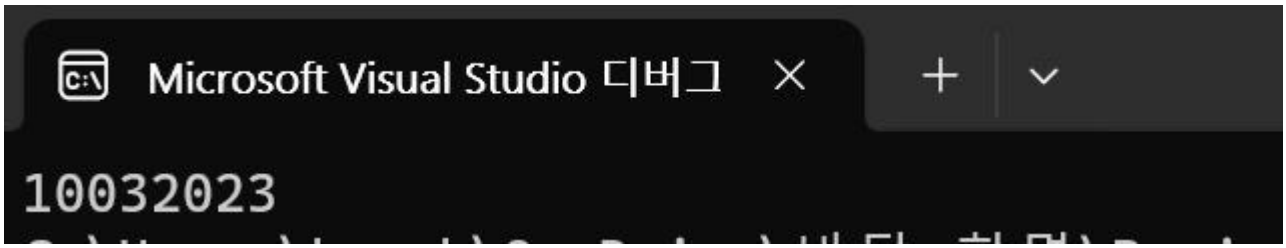
ex_body.c 코드

```
#include "ex_header.h"

int extern_test = 10032023;
```

Lab09_4 코드

```
#include "ex_header.h"
#include <stdio.h>

int main(void) {
	printf("%d", extern_test);
}
```

실습 4 실행 화면.



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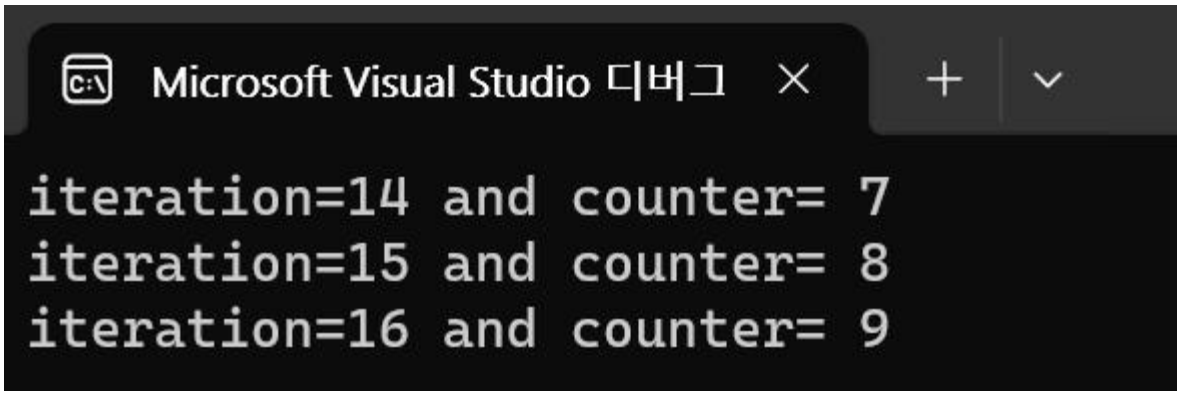
실습 5.

```c
#include <stdio.h>
void next(ovid); /* function declararion */
int counter = 7; /* global variable */

int main() {
    while (counter < 10) {
        next();
        counter++;
    }
    return 0;
}

void next(void) { /* function definition*/
    /* local static variable */
    static int iteration = 13;
    //int iteration = 13;
    iteration++;
    printf("iteration=%d and counter= %d\n", iteration, counter);
}
```

실습 5 실행 화면.



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실습 6.

Lab09_6_1 코드

```
#include<stdio.h>

//static double x; //"global" static variable
double x;

void func() {
	x = 12345;
	printf("x = %lf\n", x); /* uses "static double x" */
}
```

Lab09_6_1 코드

```
#include<stdio.h>

extern double x;
extern void func();

int main() {
	func();
	printf("x = %lf\n", x); /* Try to uses "static double x" */
	return 0;
}
```

실습 6 실행 화면.

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실습 7.

```c
#include <stdio.h>

int main() {
    register char x = 'S';
    register int a = 10;

    auto int b = 8;
    printf("The value of register variable b : %c\n", x);
    printf("The sum of auto and register variable : %d", (a + b));
    return 0;
}
```

실습 7 실행 화면.