문제해결기법(13967005)

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제출일: 2021. 9. 24

Chapter 12 Programming Exercises

12.2 #4

```c
#define _CRT_SECURE_NO_WARNINGS// or scanf_s
#include <stdio.h>
#include <math.h>
#include <stdlib.h>
#include <string.h>
#include <time.h>
#include <ctype.h>

struct CAR {

        int car_num, miles_driven, gallons_used;

}car[5] = {
        {25,1450,62},
        {36,3240,136},
        {44,1792,76},
        {52,2360,105},
        {68,2114,67}
};

int main() {

        double sum=0;
        printf("-----report-----\n");
        for (int i = 0; i < 5; i++) {
                printf("CAR NUM: %d  MILES PER GALLON: %f\n",
car[i].car_num,(double)car[i].miles_driven / (double)car[i].gallons_used);
                sum += (double)car[i].miles_driven / (double)car[i].gallons_used;
        }
        printf("Average miles per gallon achieved by five cars : %f", sum / 5.0);


        return 0;
}
```
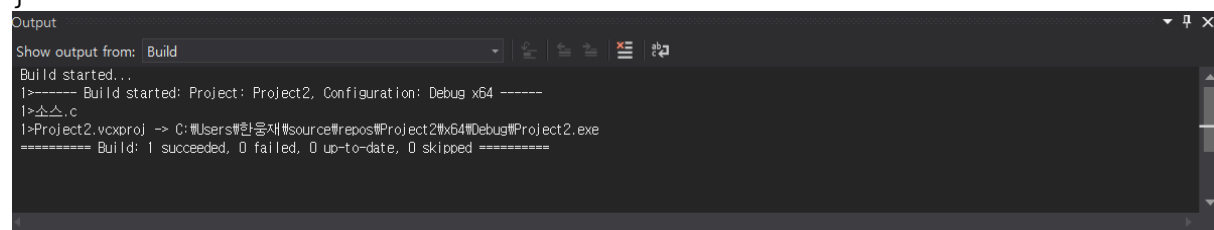
Output

Show output from: Build

```
Build started...
1>------ Build started: Project: Project2, Configuration: Debug x64 ------
1>소스.c
1>Project2.vcxproj -> C:\Users\한웅재\source\repos\Project2\x64\Debug\Project2.exe
========== Build: 1 succeeded, 0 failed, 0 up-to-date, 0 skipped ==========
```

```
-----report-----
CAR NUM: 25  MILES PER GALLON: 23.387097
CAR NUM: 36  MILES PER GALLON: 23.823529
CAR NUM: 44  MILES PER GALLON: 23.578947
CAR NUM: 52  MILES PER GALLON: 22.476190
CAR NUM: 68  MILES PER GALLON: 31.552239
Average miles per gallon achieved by five cars : 24.963601
C:\Users\한웅재\source\repos\Project2\x64\Debug\Project2.exe (process 24432) exited with code 0.
Press any key to close this window . . .
```

12.3 #1

```c
#define _CRT_SECURE_NO_WARNINGS// or scanf_s
#include <stdio.h>
#include <math.h>
#include <stdlib.h>
#include <string.h>
#include <time.h>
#include <ctype.h>

int Days(struct Date dat);

struct Date {

        int month;
        int day;
        int year;

};

int main() {

        struct Date date, differnce_date;


        printf("-----test_sets-----\n");
        for (int i = 0; i < 5; i++) {

                date.month = 1 + i;
                date.day = 10 + i;
                date.year = 2000 + 10 * i;

                differnce_date.day = Days(date);
                printf("test num : %d  date : %d/%d/%d   number of days : %d\n", i+1,
```
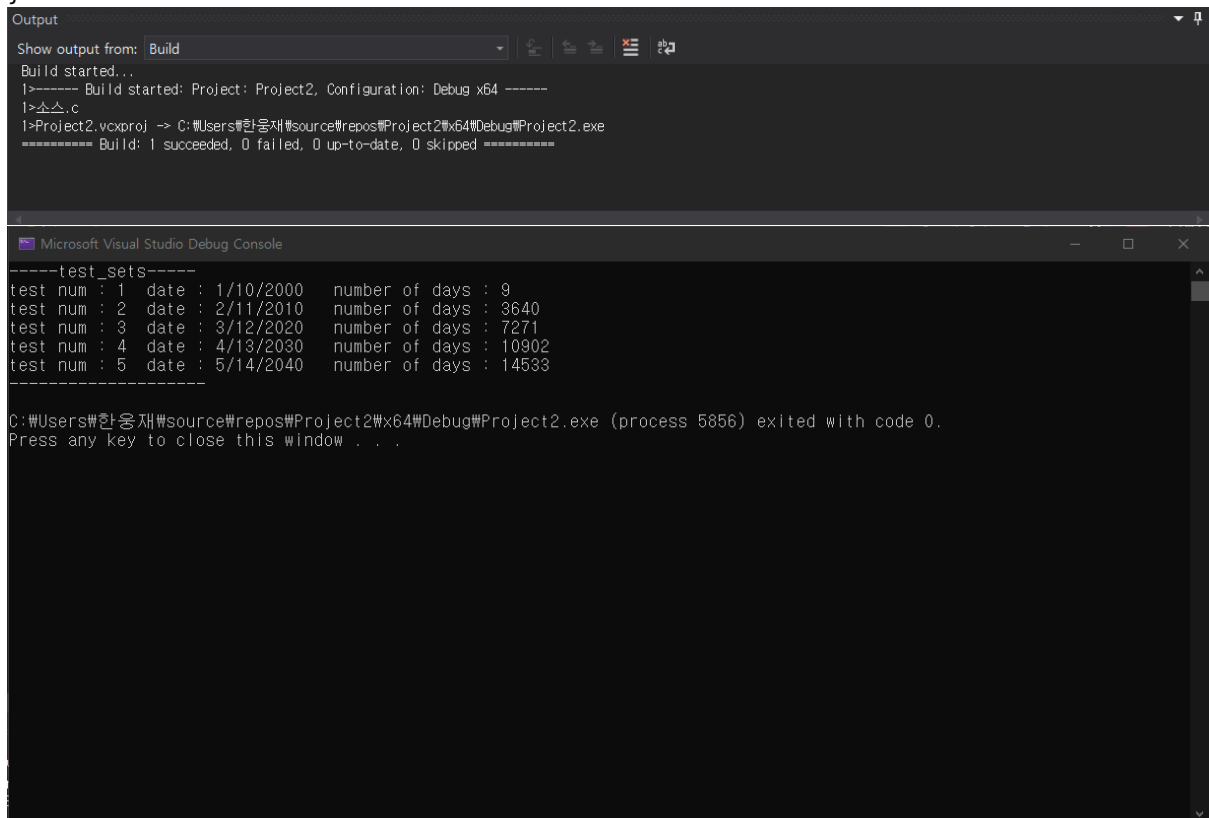
```
date.month, date.day, date.year, differnce_date.day);

        }
        printf("--------------------\n");

        return 0;
}
int Days(struct Date dat) {

        dat.day = dat.day - 1 + (dat.month - 1) * 30 + (dat.year - 2000) * 360;

        return dat.day;
}
```

Microsoft Visual Studio Debug Console

```
-----test_sets-----
test num : 1  date : 1/10/2000   number of days : 9
test num : 2  date : 2/11/2010   number of days : 3640
test num : 3  date : 3/12/2020   number of days : 7271
test num : 4  date : 4/13/2030   number of days : 10902
test num : 5  date : 5/14/2040   number of days : 14533
--------------------

C:\Users\한웅재\source\repos\Project2\x64\Debug\Project2.exe (process 5856) exited with code 0.
Press any key to close this window . . .
```

12.3 #3

```c
#define _CRT_SECURE_NO_WARNINGS// or scanf_s
#include <stdio.h>
#include <math.h>
#include <stdlib.h>
#include <string.h>
#include <time.h>
#include <ctype.h>

void Days(struct Date dat[]);

struct Date {

        int month;
        int day;
        int year;

}date[5] = {
                {1,1,2000},
                {4,25,2002},
                {11,30,2007},
                {10,7,2020},
                {9,24,2021}
};
struct Date differnce_date;

int main() {




        printf("-----test_sets-----\n");
        for (int i = 0; i < 5; i++) {

                Days(date+i);
                printf("test num : %d  date : %d/%d/%d   number of days : %d\n", i+1,
date[i].month, date[i].day, date[i].year, differnce_date.day);

        }
        printf("-------------------\n");

        return 0;
}
void Days(struct Date dat[]) {

        differnce_date.day = dat->day - 1 + (dat->month - 1) * 30 + (dat->year - 2000)
* 360;

}
```
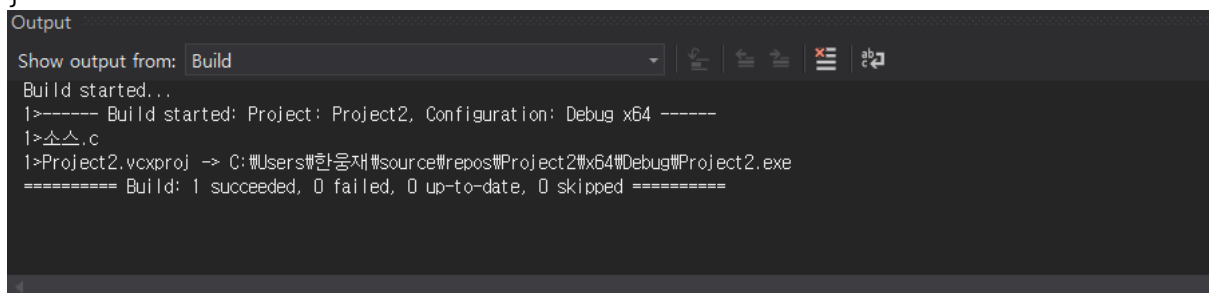
```
-----test_sets-----
test num : 1  date : 1/1/2000    number of days : 0
test num : 2  date : 4/25/2002   number of days : 834
test num : 3  date : 11/30/2007  number of days : 2849
test num : 4  date : 10/7/2020   number of days : 7476
test num : 5  date : 9/24/2021   number of days : 7823
-------------------

C:\Users\한웅재\source\repos\Project2\x64\Debug\Project2.exe (process 24028) exited with code 0.
Press any key to close this window . . .
```

12.3 #4

```c
#define _CRT_SECURE_NO_WARNINGS// or scanf_s
#include <stdio.h>
#include <math.h>
#include <stdlib.h>
#include <string.h>
#include <time.h>
#include <ctype.h>

struct Date recent(struct Date d1[], struct Date d2[]);

struct Date {

        int month;
        int day;
        int year;

}dat1[5] = { {10,4,2001},{4,25,2002},{4,7,2010},{7,5,2021},{5,7,2015} }, dat2[5] =
{ {12,30,2001},{2,4,2000},{1,1,2009},{6,14,2014},{5,7,2015} }, dat3[5];

int main() {

        printf("-----test_sets-----\n");
        for (int i = 0; i < 5; i++) {

                dat3[i]=recent(dat1+i,dat2+i);


                printf("Test Num : %d Date(1) : %d/%d/%d Date(2) : %d/%d/%d -->>  THE
LATER DATE : %d/%d/%d\n",i+1,   dat1[i].month,dat1[i].day,dat1[i].year,
dat2[i].month,dat2[i].day, dat2[i].year,   dat3[i].month, dat3[i].day, dat3[i].year);



        }
```

```c
        return 0;
}
struct Date recent(struct Date d1[], struct Date d2[]) {

        if (d1->day + d1->month * 30 + d1->year * 360 > d2->day + d2->month * 30 + d2->year * 360) {


                return *d1;

        }
        else
                return *d2;

}
```

Microsoft Visual Studio Debug Console

```
-----test_sets-----
Test Num : 1 Date(1) : 10/4/2001 Date(2) : 12/30/2001 -->>  THE LATER DATE : 12/30/2001
Test Num : 2 Date(1) : 4/25/2002 Date(2) : 2/4/2000 -->>  THE LATER DATE : 4/25/2002
Test Num : 3 Date(1) : 4/7/2010 Date(2) : 1/1/2009 -->>  THE LATER DATE : 4/7/2010
Test Num : 4 Date(1) : 7/5/2021 Date(2) : 6/14/2014 -->>  THE LATER DATE : 7/5/2021
Test Num : 5 Date(1) : 5/7/2015 Date(2) : 5/7/2015 -->>  THE LATER DATE : 5/7/2015

C:\Users\한웅재\source\repos\Project2\x64\Debug\Project2.exe (process 17668) exited with code 0.
Press any key to close this window . . .
```