과제 1 소스코드

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

void print(int** arr, int N1, int N2);

int main()
{
    int N1, N2;
    printf("입력: ");
    scanf_s("%d %d", &N1, &N2);


    int** arr = (int**)malloc(N1 * sizeof(int*));
    for (int i = 0; i < N1; ++i)
    {
        arr[i] = (int*)malloc(N2 * sizeof(int));
        for (int j = 0; j < N2; ++j)
        {
            arr[i][j] = 0;
        }
    }


    print(arr, N1, N2);

    for (int i = 0; i < N1; ++i)
    {
        for (int j = 0; j < N2; ++j)
        {
            printf("%d ", arr[i][j]);
        }
        printf("₩n");
    }

    for (int i = 0; i < N1; ++i)
    {
        free(arr[i]);
    }
    free(arr);

    return 0;
}

void print(int** arr, int N1, int N2)
{
```

```
int num = N1 * N2;
int x = (N2+1)/2, y = (N1+1)/2;
int direction = 1;
y++;
while (num <=(N1*N2))
{
    arr[y][x] = num++;
    if (direction == 0)//우하향
    {
        if (y + 1 < N1 && arr[y + 1][x] == 0)
        {
            y++;
            x++;
        }
        else
        {
            direction = 1;
            x++;
        }
    }
    else if (direction == 1) //우상향
    {
        if (x + 1 < N2 && arr[y][x + 1] == 0)
        {
            x++;
            y--;
        }
        else
        {
            direction = 2;
            y--;//상향
        }
    }
    else if (direction == 2)//좌상향
    {
        if (y - 1 >= 0 && arr[y - 1][x] == 0)
        {
            x--;
            y--;
        }
        else {
            direction = 3;
            x--;//좌향
        }
    }
    else if (direction == 3)//좌하향
    {
```

```
            if (x - 1 >= 0 && arr[y][x - 1] == 0)
            {
                y++;
                x++;
            }
            else
            {
                direction = 0;
                y++;//하향
            }
        }

    }
}
```

과제 1 소스코드 실행되지 않음

과제 2번 (너무 어려워요)

과제 3 소스 코드

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

float avr(int score1, int score2, int score3);

int main()
{
        float num = 0;
        float* pArr;
        float s1, s2, s3;
        float result;
        float temp;
        char* name;
        char nameInput;
        char nameTemp;
        printf("입력 : ");
        scanf_s("%d", &num);
        name = (char*)malloc(sizeof(char) * num);
        pArr = (float*)malloc(sizeof(float) * num);
        for (int j = 0; j < num; j++)
        {
                nameInput = 0;
                scanf_s("%s", nameInput);
                name[j] = nameInput;
                for (int i = 0; i < 3; i++)
                {
                        scanf_s("%d %d %d", &s1, &s2, &s3);
                        result = avr(s1, s2, s3);
                }
                pArr[j] = result;
        }
```

```
        for (int p = 0; p < num; p++)
        {
                for (int k = 0; k < num; k++)
                {
                        if (pArr[k] > pArr[k + 1])
                        {
                                temp = pArr[k];
                                pArr[k] = pArr[k + 1];
                                pArr[k + 1] = temp;
                                nameTemp = name[k];
                                name[k] = name[k + 1];
                                name[k + 1] = nameTemp;
                        }
                }
        }
        for (int t = 0; t < num; t++)
        {
                printf("%s %f", name[t], pArr[t]);
        }

}
float avr(int score1, int score2, int score3)
{
        float avrResult;
        avrResult = (float)(score1 + score2 + score3) / 3;
        return avrResult;
}
```

실행결과