Lab 07 Text Mode Game 03 65010409 ธนธัส พินธุ

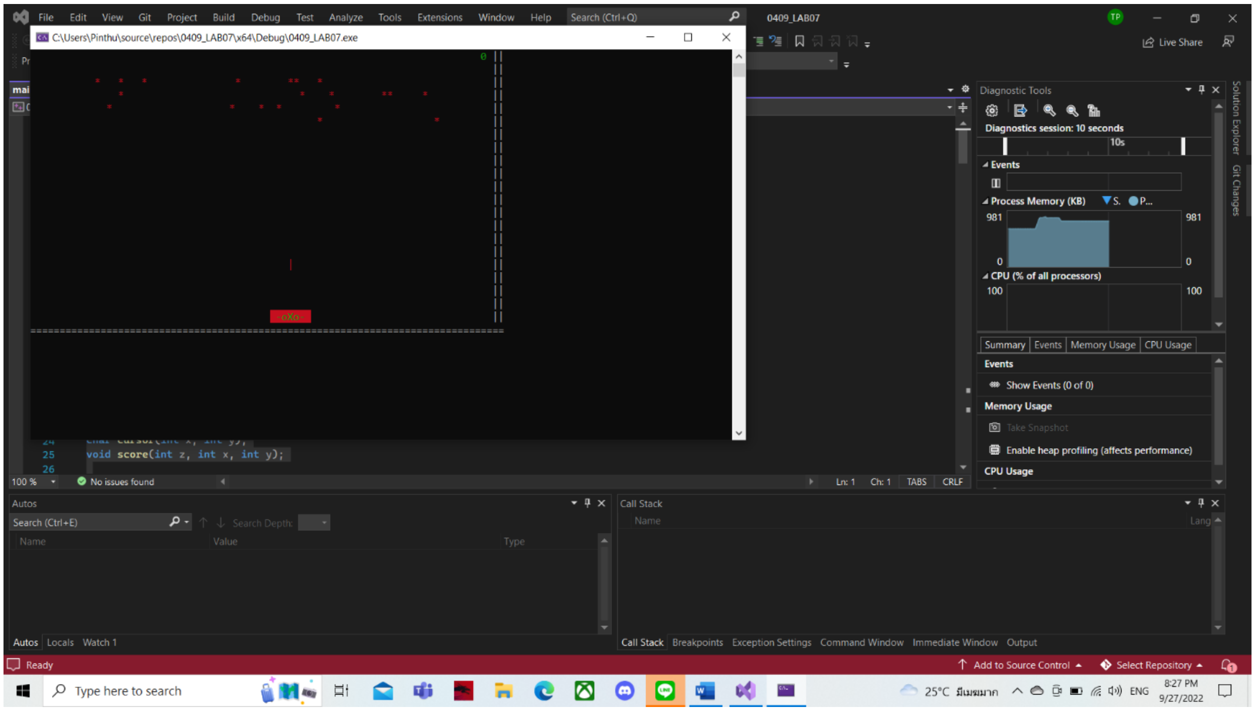
-Source Code

```
#define _CRT_SECURE_NO_WARNINGS
#include<stdio.h>
#include<conio.h>
#include <time.h>
#include<Windows.h>
#include <thread>

//Global Variables
bool status[5];
int bx[5], by[5];
int sx, sy;

//Function Declaration
void draw_courtX(int x, int y);
void draw_courtY(int x, int y);
void erase_ship(int x, int y);
void erase_bullet(int x, int y);
void draw_ship(int x, int y);
void draw_bullet(int x, int y);
void draw_star(int x, int y);
void gotoxy(int x, int y);
void setcursor(bool visible);
void setcolor(int fg, int bg);
char cursor(int x, int y);
void score(int z, int x, int y);

//Main Loop
int main()
{
	char ch = ' ';
	char dir{};
	int x = 38, y = 20, hit = 0, point = 0;;
	setcursor(0);
	draw_ship(x, y);
	srand(time(NULL));
	for (int i = 0; i <= 20; i++)
	{
		draw_courtX(79, i);
	}
	for (int i = 0; i <= 80; i++)
	{
		draw_courtY(i, 21);
	}
	for (int i = 0; i < 20; i++)
	{
		sx = 10 + rand() % 61;
		sy = 2 + rand() % 4;
		draw_star(sx, sy);
	}

	do {
		if (_kbhit()) {
			ch = _getch();
```

```
            if (ch == 'a')
            {
                dir = 'l';
            }
            if (ch == 'd')
            {
                dir = 'r';
            }
            if (ch == 's')
            {
                dir = 'i';
            }

            if (ch == ' ') //Key Shoot
            {
                for (int i = 0; i < 5; i++)
                {
                    if (status[i] == 0)
                    {
                        status[i] = 1;
                        bx[i] = x + 3;
                        by[i] = y - 1;
                        break;
                    }
                }
            }
            fflush(stdin);
        }

        if (dir == 'l' && x > 0)
        {
                erase_ship(x, y);
                draw_ship(--x, y);
        }
        if (dir == 'r' && x < 70)
        {
                erase_ship(x, y);
                draw_ship(++x, y);
        }
        if (dir == 'i')
        {
            erase_ship(x, y);
            draw_ship(x, y);
        }
        for (int i = 0; i < 5; i++) //Shoot
        {
            if (status[i] == 1)
            {
                std::thread p(Beep, 600, 200);
                p.detach();
                erase_bullet(bx[i], by[i]);
                if (by[i] == 0)
                {
                    status[i] = 0;
                }
                else
                {
                    if (cursor(bx[i], by[i] - 1) == '*')
                    {
                        hit = 1;
                    }
                    draw_bullet(bx[i], --by[i]);
                }
                if (hit)
                {
                    point += 1;
                    erase_bullet(bx[i], by[i]);
                    std::thread p(Beep, 700, 200);
                    p.detach();
                    hit = 0;
                    status[i] = 0;
                    sx = 10 + rand() % 61;
                    sy = 2 + rand() % 4;
                    draw_star(sx, sy);
                }
            }
        }
        score(point, 77, 0);
        Sleep(100);

    } while (ch != 'x');
    return 0;
}

//Function Setup
void draw_courtX(int x, int y)
{
    setcolor(7, 0);
    gotoxy(x, y);
    printf("||");
}

void draw_courtY(int x, int y)
{
    setcolor(7, 0);
    gotoxy(x, y);
    printf("=");
}

void draw_ship(int x, int y)
{
    setcolor(2, 4);
    gotoxy(x, y);
    printf(" -oXo- ");
}

void draw_bullet(int x, int y)
{
    setcolor(4, 0);
    gotoxy(x, y);
    printf("|");
}

void draw_star(int x, int y)
{
    setcolor(4, 0);
```

```c
	gotoxy(x, y);
	printf("*");
}

void gotoxy(int x, int y)
{
	COORD c = { x, y };
	SetConsoleCursorPosition(GetStdHandle(STD_OUTPUT_HANDLE), c);
}

void erase_ship(int x, int y)
{
	setcolor(0, 0);
	gotoxy(x, y);
	printf("       ");
}

void erase_bullet(int x, int y)
{
	setcolor(0, 0);
	gotoxy(x, y);
	printf(" ");
}

void setcursor(bool visible)
{
	HANDLE console = GetStdHandle(STD_OUTPUT_HANDLE);
	CONSOLE_CURSOR_INFO lpCursor;
	lpCursor.bVisible = visible;
	lpCursor.dwSize = 20;
	SetConsoleCursorInfo(console, &lpCursor);
}

void setcolor(int fg, int bg)
{
	HANDLE hConsole = GetStdHandle(STD_OUTPUT_HANDLE);
	SetConsoleTextAttribute(hConsole, bg * 16 + fg);
}

char cursor(int x, int y)
{
	HANDLE hStd = GetStdHandle(STD_OUTPUT_HANDLE);
	char buf[2]; COORD c = { x,y }; DWORD num_read;
	if (!ReadConsoleOutputCharacter(hStd, (LPTSTR)buf, 1, c, (LPDWORD)&num_read))
		return '\0';
	else
		return buf[0];
}

void score(int score, int x, int y)
{
	setcolor(2, 0);
	gotoxy(x, y);
	printf("%d", score);
```

```
}
```



C:\Users\Pinthu\source\repos\0409_LAB07\x64\Debug\0409_LAB07.exe

```
                                                                       0 ||
                                                                         ||
        *   *   *               *        **   *                          ||
            *                              *    *         **     *       ||
          *                    *    *  *         *                       ||
                                              *                   *      ||
                                                                         ||
                                         |                               ||
                                                                         ||
                                       -oXo-                             ||
=========================================================================
```

```
char cursor(int x, int y);
void score(int z, int x, int y);
```