

## **Lab 16 notes:**

### **Author: Khang Trinh – 102118468**

Q1: Official site: <https://www.libsdl.org/>

Q2: SDL = Simple Directmedia Layer

Q3: Released under the zlib license [https://www.zlib.net/zlib\\_license.html](https://www.zlib.net/zlib_license.html)

Q4: Supports windows, mac, linux, ios and android

Q5: Written in C <https://www.libsdl.org/index.php>

Q6: Where to look for API by Name <http://wiki.libsdl.org/CategoryAPI>

Q7: I couldn't find where they explain the different options, but here's my assumptions:

- Source Code: The source code of the for people who wanna work on the library itself
- Runtime Binaries: Code for running games that use this library
- Dev Libraries: Code for game devs to use for making their games

Q8: I'm a student learning how to make a game using this library, so the 3rd option above

Q9: Difference between a library and a framework:

- A library: a *library* of code that the user can choose and use wherever, whenever they need to solve their problem
- A framework: provides code as a *frame*/a guide for the user on how to solve their problem
- The programmer has more freedom when using a library than a framework.

<https://www.freecodecamp.org/news/the-difference-between-a-framework-and-a-library-bd133054023f/>

Q10:

- Configuration & Platform need to be changed to "All Platforms"
- Active solution platform needs to be x64
- The current language configuration needs to include the library
- The linker's additional library needs to include x64
- The linker's input needs to have SDL2.lib and SDL2main.lib dependencies

Q11: Links used for learning:

How to set up SDL2 and do basic coding to get a window appearing

[https://www.youtube.com/watch?v=QQzAHcojEKg&ab\\_channel=Let%27sMakeGames](https://www.youtube.com/watch?v=QQzAHcojEKg&ab_channel=Let%27sMakeGames)

How to handle text input and keyboard input

[https://www.youtube.com/watch?v=m2doh3Li65c&ab\\_channel=CodingMadeEasy](https://www.youtube.com/watch?v=m2doh3Li65c&ab_channel=CodingMadeEasy)

[https://www.youtube.com/watch?v=letfLyHh3-g&ab\\_channel=CodingMadeEasy](https://www.youtube.com/watch?v=letfLyHh3-g&ab_channel=CodingMadeEasy)

Key codes

[http://wiki.libsdl.org/SDL\\_Keycode](http://wiki.libsdl.org/SDL_Keycode)

How to quit using SDL

<https://stackoverflow.com/questions/15272089/sdl-event-loop-quitting>

Hello World code demo

```
while (isRunning) {
    while (SDL_PollEvent(&ev) != 0) {
        if (ev.type == SDL_QUIT)
            isRunning = false;
        else if (ev.type == SDL_KEYDOWN) {
            switch (ev.key.keysym.sym)
            {
                //If r is pressed, get a random color and clear > display that color on the screen
                case SDLK_r:
                {
                    SDL_SetRenderDrawColor(renderer, rand() % 255 + 1,
                                                    rand() % 255 + 1,
                                                    rand() % 255 + 1,
                                                    rand() % 255 + 1);

                    SDL_RenderClear(renderer);
                    SDL_RenderPresent(renderer);
                    break;
                }

                //If q is pressed, exit
                case SDLK_q:
                    isRunning = false;
                    break;

                default:
                    break;
            }
        }
    }
    SDL_UpdateWindowSurface(window);
}
```

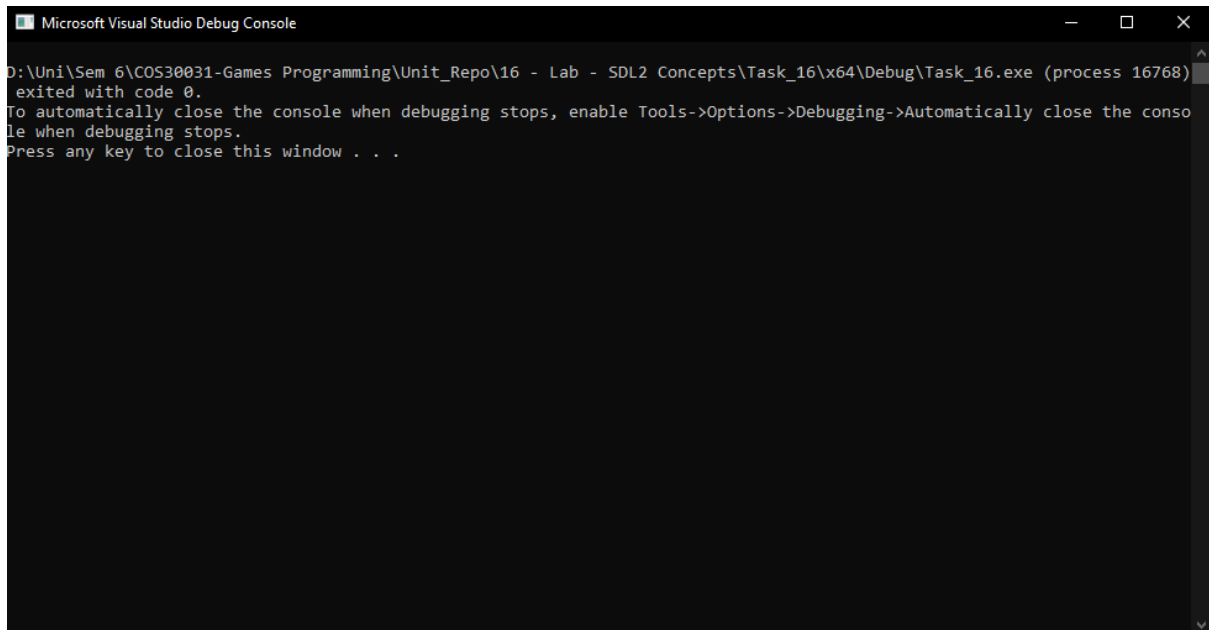
*Fig 1. Main code that change colors on pressing "R" and quit on pressing "Q"*



*Fig 2. Initial window's appearance*



*Fig 3. What happens after pressing "R"*



*Fig 4. What the console log looks like*