Basic Setup

1. update your graphics drivers

2. install `python 3`, `Visual Studio` (or another IDE), `cmake` – add `python3` to the path

3. install `conan` by running `pip3 install conan` in a shell

4. create a directory (named after your project, e.g. `lab01`) and navigate to it, create a directory called `build`

5. create `conanfile.txt` and add the following text:

```
[requires]
sdl2/2.0.10@bincrafters/stable
glew/2.1.0@bincrafters/stable
[generators]
cmake
```

6. create `CMakeLists.txt`, add this text (change *lab01* to your project name):

```
cmake_minimum_required(VERSION "2.8.0")
project("lab01")
add_definitions("-std=c++11")
include(${CMAKE_BINARY_DIR}/conanbuildinfo.cmake)
conan_basic_setup()
add_executable(lab01 lab01.cpp)
target_link_libraries(lab01 ${CONAN_LIBS})
```

7. create `lab01.cpp` (must use same name as in `CMakeLists.txt`), add this code:

```cpp
#include <GL/glew.h>
#include <SDL.h>
#include <SDL_opengl.h>
int main(int argc, char **argv) {
    static const int WINDOW_WIDTH = 500;
    static const int WINDOW_HEIGHT = 500;
    // SDL setup
    SDL_Init(SDL_INIT_VIDEO);
    SDL_Window *window = SDL_CreateWindow("lab01", SDL_WINDOWPOS_CENTERED,
        SDL_WINDOWPOS_CENTERED, WINDOW_WIDTH, WINDOW_HEIGHT, SDL_WINDOW_OPENGL);
    SDL_GLContext gl_context = SDL_GL_CreateContext(window);
    glewExperimental = GL_TRUE;
    glewInit();
    SDL_GL_SetSwapInterval(1);
    // SDL event handling
    for (;;) {
        SDL_Event event;
        while (SDL_PollEvent(&event)) {
            if (event.type == SDL_QUIT) { goto end; }
        }
    }
end:
    // SDL shutdown - opposite order of setup
    SDL_GL_DeleteContext(gl_context);
    SDL_DestroyWindow(window);
    SDL_Quit();
    return 0;
}
```

8. run `conan remote add bincrafters "https://api.bintray.com/conan/bincrafters/public-conan"` in a shell (source under 'Add Remote')

9. navigate to the `build` directory

10. *Mac OS:* run `conan install ..`
    Windows: run `conan install .. --build glew -s build_type=Debug`

11. *Mac OS:* run `cmake`
    Windows: use the CMake gui to set the `Where is the source` to your main project folder and
    `Where to build the binaries` to the `build` folder, click `Configure` and select `Visual Studio`
    (the version you have installed), click `Generate`, and finally `Open Project`

12. *Mac OS:* run `make`, then `./bin/lab01` to start the program
    Windows: in the sidebar of Visual Studio, navigate to your `.cpp` file in your directory, open it, click
    `Local Windows Debugger` in the top bar to execute