

s202018021_07-05-ex1

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1. Instruction to compile the code

After using the `cd` (change directory) command to navigate to the correct working directory, use these following commands to compile the code:

```
% gcc -Wall -c 07-03-EmbeddedObjects.c
% gcc -Wall -c 07-03-Projection.c
% gcc -Wall -c 07-04-Initialization.c
% gcc -Wall -c 07-05-Callback.c
% gcc -Wall -c 07-05-MainFunction.c
% gcc -Wall -c 07-05-Rendering.c
% gcc -o Go -framework GLUT -framework OpenGL 07-05-MainFunction.o 07-03-
EmbeddedObjects.o 07-04-Initialization.o 07-03-Projection.o 07-05-
Callback.o 07-05-Rendering.o
% ./Go
```

2. Brief review of the code

This exercise wants us to add two additional user triggered events to the original code: change logo color when the user presses `c`, and change it back when the user presses `C`.

It's easy to give the program the ability to respond to two new key inputs. The key inputs are handled by the `ic2_NormalKeyInput` function in `07-05-Callback.c`. We only need to add two more `cases` corresponding to `c` and `C`.

However, it is a little more complicated to change the color of the logo on the go. To achieve that, we need to pass the `(r, g, b)` values in as parameters. In order to do that, the definition of `ic2_OpenGLLogo()` in `07-03-EmbeddedObjects.c` needs to be changed. The parameters passed into this function should become `(float s, GLfloat r, GLfloat g, GLfloat b)`. This allows us to control the color of the logo using the `(r, g, b)` variables.

All the corresponding occurrence of `void ic2_OpenGLLogo (float s, GLfloat r, GLfloat g, GLfloat b)` needs to be modified as well. Also, additional global variables need to be created in `07-05-MainFunction.c` in order to host the `(r, g, b)` variables.

3. Result of execution

```
% ./Go
```

4. Explanation for extra files

OUTPUT1.png - A screenshot of the output frame when the program first launches. The logo is **#FFFFFF** (white).

OUTPUT2.png - A screenshot of the output frame after pressing **c**. The logo becomes **#00FFFF** (cyan/aqua).