ICS 161 – Game Engine Lab – Test #2, March 11, 2016 – Example Questions

1. Name one of the design goals stated for the GE161 game engine. Briefly describe how that goal influenced the code in the engine.
2. The Nystrom book is titled "Game Programming Patterns" not "Game Engine Programming Patterns." Select one of the patterns you were assigned to read this quarter, and explain how the pattern was modified when using it in a game engine. If the pattern didn't need any modification for use in an engine, explain why not.
3. Explain the concept of "layers of abstraction" and give an example related to GE161.
4. Briefly describe the Update pattern.
5. What is a problem with using the auto-repeat keyboard capability in a game? How could you solve or avoid that problem?
6. Recall the show(std::string) method in the Sprite class. Why does it exist? Why is the parameter a string (and not, say, an int or an enum)? Can you suggest a better way of achieving the same functionality?
7. If we implemented GUI button functionality by having a sprite for each button, how many frames would the sprite have, and what would be the role of each of the frames?
8. What is the main design challenge in creating a game engine?

Plus all the questions from the Test 1 list of example questions:

1. Think back to the show(string) method from the Sprite class in Homework 3. The goal of this method is to support the display of a sequence of frames, thus giving the illusion of animation. Explain why it doesn't work to have the code within show (string) loop through multiple frames. Your explanation should include a mention of the role of SDL_RenderPresent.
2. What is the meaning of "pattern", as used in the book Game Programming Patterns?
3. What is a "macro", as the term is used when talking about the C/C++ preprocessor? Give an example.
4. Why is it generally a good idea in C++ programming to define a class in separate .h and .cpp files?
5. Why did we often have to copy SDL.dll and other .dll files into the same directory as the executable? Explain what the problem is and how the copying resolves the problem.
6. Give one difference between a "debug" build and a "release" build.
7.