# Lab 7 Billiards

For the next Tuesday back you will have a hand written research document for the game billiards and will have created a github repository created by accepting the assignment https://classroom.github.com/a/OakFA8XX and added the research document as jpeg images or a pdf document.

There will be three sections,

1. The rules and scoring systems for billiards (the existing real game not one you made up in your head).
2. A narrative description of four shots from a game demonstrating the different scoring events) [less than half a page].
3. The inner workings of the billiards game. Data needed to store the system state, the rules governing the system. How it’s going to work. Don’t use classes instead use 3 similar sets of data for the different balls. Use 3D vectors with the z component set to zero. All game data should be stored as constants no magic numbers hidden in the code, SFML shapes only used for graphics. All collisions to be detected by you, no .contains or .collides methods to be used. The pockets should be handled using an array. The methods to move a ball etc. should be passed a reference to one of the three balls.

You should use SFML circle and rectangle shapes for the graphics until you get the whole game working then you can add textures to gain the last 10% for extra functionality. Anyone with textures or sounds and an incomplete game will suffer a 25% penalty.

**Any operations on the balls that update the x & y components individually (except for bouncing off the cushions) will receive negative marks. Movement, collision and deceleration are to be vector operators.**

Research Document due Tuesday @10:00 16/1/18 as pdf included in github repo as pdf or jpg

Half way point (stage 4) of cue and ball moving around table and able to strike ball and have it slow. Demonstrate at start of class Thursday class 26/1/18.

Final Project due 10:00 pm Wednesday 14th February 2018 on github.