Term Project Report

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1. What functions were implemented and what functions were missing

**All requirements have been met**

Details are as follows:  
Implementation of the ability for blocks to move -1 in the y-axis direction per second.  
block stack function.  
new block random creation function.  
game termination condition check function.  
Score Announcement Function.  
the function to clear layers full of blocks.  
Tumble tool, track tool, dolly tool, zoom tool function.  
orthographic mode and perspective project mode selection function  
rotation and translation function  
feasibility check function when performing rotations and translations

1. How to play the game

The game starts when you run the code. Block moves by -1 in the y-axis direction per second.  
The direction key allows you to move to the x-z plane. (The direction of travel will be determined by the camera's point of view.)  
You can rotate the block about the x-axis via the 'a' key, about the y-axis via the 's' key, and about the z-axis via the 'd' key.  
Right-click to select between orthogonal mode and perspective mode.

1. What you learned or discussion

When applying Rotation to a Block, I could learn how to rotate block using a 3D rotation formula without using a function.  
I could learn how to make changes the display over time by registering a callback function which is excuted when GL is idle.

1. Any extra efforts (which may give you extra credits) if there is any
2. APPENDIX : How to implement the game.

I created a class called Block to manage Tetris blocks.  
Block classes have the following variables as member variables:  
Vector <int> location : Location of blocks.  
Int\_x, t\_y, t\_z : the value of the translation of blocks.  
  
The following functions are taken as member functions:  
Init() : Create random blocks from start location.  
DrawBlock() : Draw the current location of the block as a cube.  
Move() : Move block after feasibility check.  
Rotation(): Rotation of blocks after feasibility check.  
IsFeasible(): Make sure block is not out of the map or the same location already has another block.  
IsCollision() : Check for more movement to the y-axis.  
UpdateMap(): Updates blocks on a map after the block touching the floor.