How to operate Rubik Proof-of-Concept

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0.1 Overview

The purpose of this document is to guide a user through operating the proof of concept for my Rubik project. It will include the functions that can be called and brief descriptions of them. Also, there will be a section of other available features.

1 Getting to the Console

To get to the proof of concept file, get inside of the class repository and go through the following directories: Math198/class198f16/lkulbis2/ThreeJS. The file will be named LKProject.html. Open the file in your preferred browser and access your console. In Google Chrome, this can be done by right clicking on the page, clicking on "Inspect", and then clicking on the Console tab which is located close to the top of the window. [1] (At this point, you may want to refresh so that you will be able to see the cube.) To manipulate the cube, simply type in the desired function in the following format:

Function name, parenthesis, parameters (if any), close parenthesis, semicolon.
(eg. makeTurn(0);)

2 Functions

2.1 Rotational Functions

There are six possible rotations (see proposal) that can be called. There are several different ways to call each of these functions, so use whichever one you prefer. (These functions are separated by a '-')

To rotate the Front Face: F(); - makeTurn(0);

To rotate the Left Face: L(); - makeTurn(1);

To rotate the Right Face: R(); - makeTurn(2);

[1] There is also a console screen at the bottom of the elements tab

To rotate the Top Face: U(); - makeTurn(3);

To rotate the Bottom Face: D(); - makeTurn(4);

To rotate the Back Face: B(); - makeTurn(5);

2.2 Complex Functions

There are several functions written in the program to draw in the cube to canvas, or to make other functions work. However, the user doesn't have to know about these functions as they will not be using them. (For more detail on these functions, see the comments in the code.) The functions which are currently complete and may be used are as follows:

scramble() - No parameters. this function performs 25 random rotations, effectively scrambling the cube

solveOneMove() - No parameters, this function will solve the cube if only one rotation has been performed on it from the solved state.

solveTwoMoves() - No parameters, this function will solve the cube if there have been up to 2 rotations from the solved state.

totalWrongCorners() - No parameters, returns an integer from 0-8 representing the amount of corners which are in the correct position and have the correct orientation.

isComplete() - No parameters, returns a boolean representing if the cubs is solved or not

3 Features

In addition to all of the functions, the user has access to other tools.

3.1 Rotating the Scene

To rotate the scene, use the Up, Down, Left, and Right arrow keys. These will rotate the cube up, down, left, or right respectively. Make sure to click on the window of the cube or else it won't work.