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Math 242

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**Programming Project Proposal**

To satisfy the requirements of the Math 242 Programming Project, I propose to design and program a graphic user interface (gui) that presents an interactive Rubik’s Cube puzzle game. This game consists of a cube that has six different colored faces, each of which is divided into nine tiles. Each face of the cube can be rotated about its center so that the colored tiles can be rearranged. The goal of the game is to manipulate the rearranged cube so that each face is comprised of only matching colored tiles.

The gui will have a 3d depiction of the cube as well as buttons that perform the following:

* Rotation of the cube
* Rotation of each of the cube’s faces
* Reset (to a solved cube)
* Randomize (sets the cube to a random unsolved state)

Additional features to be incorporated if time allows include the following:

* Sound effects.
* The ability to modify the faces of the cube to show different colors, patterns, or images.
* A scorekeeping feature that tracks the number of moves and time it takes to solve the puzzle, possibly allowing top scorers to record their initials.
* A hint button that suggests a move if the user is stumped.