

Think-Thank-Thunked
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APCS02 pd08
HW60 -- Are We There Yet?
2018-06-08

RubiksCube

```
- color[][] front           //faces of the cube
- color[][] back
- color[][] right
- color[][] left
- color[][] up
- color[][] down
protected int size          //side length of face
protected Stack<int> solStack //stack of moves to get to solution

+ void shuffle()
+ boolean isSolved()
+ String toString()
+ void reset()              //cube becomes solved
+ void getHint()            //pops the moves stack and displays it for user
+ solve(int x)

protected abs void turn(color[][] a, int turn) //rotates face in direction of turn
+ void turnFC()              //wrapper class for turning (front face clockwise)
+ void turnFCC()
+ void turnBC()
+ void turnBCC()
+ void turnRC()
+ void turnRCC()
+ void turnLC()
+ void turnLCC()
+ void turnUC()
+ void turnUCC()
+ void turnDC()
+ void turnDCC()

+ abs rotateUp()             //reassigns instance vars to simulate physically turning
```

- + abs rotateDown()
- + abs rotateLeft()
- + abs rotateRight()

twoCube

- + void Two()
- + void turn(color[][] a, int turn)
- + void rotateUp()
- + void rotateDown()
- + void rotateLeft()
- + void rotateRight()
- void rotateHC(color[][] a) //rotate helper function - rotates face clockwise
- void rotateHCC(color[][] a) //rotate helper function - rotates face counter-clockwise

Three

- + void Three()
- + void turn(color[][] a, int turn)
- + void rotateUp()
- + void rotateDown()
- + void rotateLeft()
- + void rotateRight()
- void rotateHC(color[][] a)
- void rotateHCC(color[][] a)

Run_Rubiks

- + void setup()
- + void draw()
- + void mouseClicked()

Button

- int x //x-coordinate of button
- int y //y-coordinate of button
- String message //message to be put in button
- float xsize //length of button

- float ysize //height of button
- boolean isPressed

- + Button(int xCoor, int yCoor, float xSize, float ySize, String writing) //constructor
- + void makeButton() //display button with pre-made colors
- + void mouseClicked()

ToggleButton

- + ToggleButton(int xCoor, int yCoor, float xSize, float ySize, String writing) //constructor

