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CS 380

Assn 2

Professor Popyack

Description File

Most of the code runs off an array of characters representing the colors on each face using the number system identified in the assignment document. This made cloning very easy for it'd be as simple as *self.full_cube.copy()*.

I used python's random standard library to generate a list of random moves to use in shuffle and random. I made sure that repetition is allowed.

The cube class has a list of faces (character arrays) which I use to check if cube is solved and when printing cube.

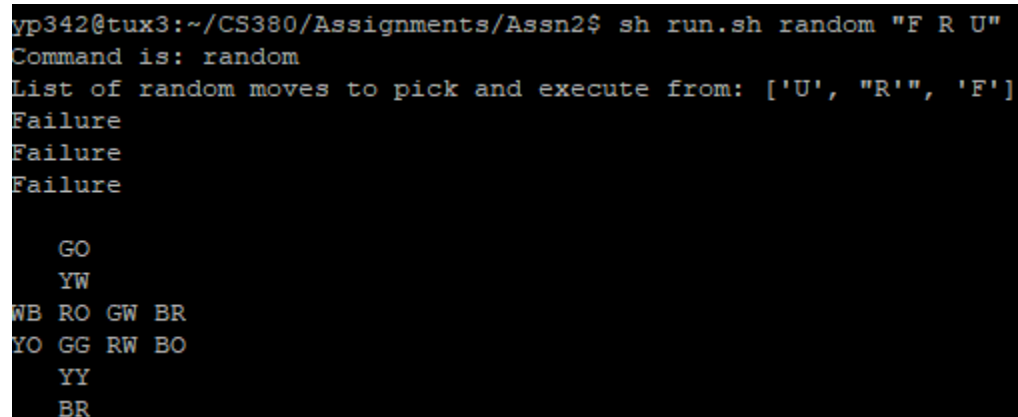I created a map which holds each color and their opposites.

To check if the cube has returned to ground state, I compare the character array with what I expect a normalized character array to be.

If applyMovesStr is given a state to work from, it overwrites present cube's state.

I tested this code locally using immediate test cases within the terminal itself.

The code itself is commented enough for understanding.

Screenshots:

```
yp342@tux3:~/CS380/Assignments/Assn2$ sh run.sh random "F R U"
Command is: random
List of random moves to pick and execute from: ['U', "R'", 'F']
Failure
Failure
Failure

    GO
    YW
WB RO GW BR
YO GG RW BO
    YY
    BR
```

```
yp342@tux3:~/CS380/Assignments/Assn2$ sh run.sh shuffle 5
Command is: shuffle
D' U' U B R
    RG
    WR
WO GY BR WB
WG RG YY BB
    YO
    OO

yp342@tux3:~/CS380/Assignments/Assn2$ sh run.sh norm "BBGG OYRR WWOY GBGB WRYY OOWR"
Command is: norm

    WW
    YY
RB RR GO GG
OO GO BB RB
    YW
    YW

yp342@tux3:~/CS380/Assignments/Assn2$ sh run.sh applyMovesStr "R U' R'" "WWWW RRRR GGGG YYYY OOOO BBBB"
Command is: applyMovesStr

    GW
    WR
WB OG YR BR
OO GW GR BB
    YO
    YY

yp342@tux3:~/CS380/Assignments/Assn2$ sh run.sh goal "RWOR GOYB BOGW BRBW YWYO RGYG"
Command is: goal
False

yp342@tux3:~/CS380/Assignments/Assn2$ sh run.sh goal " WWWW RRRR GGGG YYYY OOOO BBBB"
Command is: goal
True

yp342@tux3:~/CS380/Assignments/Assn2$ sh run.sh print
Command is: print

    WW
    WW
OO GG RR BB
OO GG RR BB
    YY
    YY

yp342@tux3:~/CS380/Assignments/Assn2$ sh run.sh print "RWOR GOYB BOGW BRBW YWYO RGYG"
Command is: print

    RW
    OR
YW BO GO RG
YO GW YB YG
    BR
    BW
```