Guide to source code

The cube consists of a 3-D array of Blocks, where each Block consists of 6 faces.

The classes Block and Cube found in the package cube contain the implementation of this logic.

A single 3**×**3**×**3 array was chosen over 6 different 3**×**3 arrays for ease of visualization while writing code.

The classes in package cube as well as the class Cube\_solver were written in 2017 by someone (me) who did not fully appreciate the importance of commenting their code. As such, I do not currently understand most of what is written and cannot explain the logic used in detail. The solution algorithm used is the beginners’ algorithm where one solves the cube one layer at a time, from the top (white) to the bottom (yellow).

The GUI is made up of two components, a form file and a class. The form file was created using the community edition of IntelliJ and bound to the class.

1) Default values for the parameters can be found in the first few lines of class GUI\_Cube.

2) The function rewrite\_config() attempts to create config.json if config.json is corrupted or missing. It is called in the function load\_preferences() in the same class.

3) The colours used for the cube can be found in the get\_colour(char) function inside the nested class DrawPanel inside the createUIcomponents() function.

4) The look and feel of the application is set by default to the Nimbus look and feel. This can be changed by editing main(String[]) in class Main.

The Test class was written for carrying out certain tests, like seeing how many times a sequence of moves needs to be repeated before the cube returns to it’s original configuration, and the time taken by the algorithm used to solve the cube (by subtracting the time taken to scramble the cube n times from the time taken to solve and scramble the cube n times and dividing by n, where n is a large number).