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Chess Puzzles

Download this iPhone app from the App Store via search for ‘Walter Babcock’ and its name is ‘Grandmaster Chess Puzzles’ The associated code is an Xcode project written in Swift 3, and verified as working with version 8.3.3. It is full functioning demo of the above app, but doesn’t contain 100% of its features. However, you can pick from over 200 puzzles and try to solve any one of them.

My mine programming strategy thinks of the board in two different ways. One as a simple string of length 64. A ‘0’ represents an empty square and letters like ‘k’ for instance are the white king. This makes database uploads very simple, and provides an easy mapping to a list of corresponding views for the UI. Secondly, the board is thought of as an 8x8 grid of ordered pairs. This makes calculating valid moves of a given piece in a particular scenario much easier. The conversion function between these two is quite simple. Multiple the y-coordinate by 8, and add the x-coordinate to find the right index of the board string. Similarly, divide a string index by eight for the y-coordinate, and use the remainder as the x-coordinate. Considering one entity in different ways is a technique I often employ. For a set of numbers for instance, having a simple array list is very common and especially important if the given order is important. However, looking up indexes of a given number is slow with this data structure. So I often also place these numbers in a hash table as well.