1. 总共有8种方块，每种方块有4个不同朝向；
2. 每种方块都有一个入口和一个出口，用A和B 标记，所以不同种类的方块有可能在朝向上等效；
3. 游戏板上有9个方块，游戏开始前由算法生成板上所有方块的原始状态。
   1. 生成过程中方块可以旋转，生成完成后方块不得再旋转；
   2. 生成好所有方块的位置和朝向后，随机在其中一个方块上生成一个钉子；
   3. 游戏目标就是将这个钉子从生成地点移动到左上角的出口；
   4. 钉子只能根据方块的入口和出口移动，具体移动规则如下：
      * Tiles may not be rotated or removed from the board.
      * Tiles may be slid only into an adjacent space that does not contain a tile.
      * A Tile that is occupied by the Peg may not be moved until the Peg no longer occupies it.
      * The Peg may only stop on a '**BROWN\_CORNER**' or **'STAIRWAY**' tile (**tileTypes \* to x**).
      * If you look at the pictures of the tiles, you'll notice that **each tile has a black dot in the center if the peg is allowed to stop there**.
      * The Peg may only **move between a BROWN\_CORNER and GREEN\_CORNER/STRAIGHT tile via a STAIRWAY** in the correct orientation.
      * The Peg may **not move across the empty space** (water with crocodiles on it!)
      * The puzzle is complete when the Peg is able to exit the maze via the green exit found on the top-left of the board
      * Notice that the **exit is green**: **it must be connected to either a STRAIGHT tile or a STAIRWAY tile** in the correct orientation.
4. 游戏正式开始后，一个方块只能和它的临近方块交换位置；
5. 注意方块的移动和“peg”的移动是相互独立的，而且“peg”不能停在绿色的方块上！
6. 游戏共有5个难度，每个难度12个解法。
7. 方块和“peg”的位置标记为0-8，方块的朝向标记为东南西北：

* STRAIGHT --- PLUS +
* GREEN\_CORNER --- EQUALS =, SQUARE □
* BROWN\_CORNER --- TRIANGLE △, CROSS x, CIRCLE ○
* STAIRWAY --- STAR \*, DIAMOND ◇

1. 解法的存储：由字符串完成。前16个字符储存方块的放置，最后一位存储钉子的位置。在Objective类里存好了所有的解法，如S0S6W3N8N2E5S7S18：
   1. Tile + is in orientation SOUTH and position 0.
   2. Tile = is in orientation SOUTH and position 6.
   3. Tile □ is in orientation WEST and position 3.
   4. Tile △ is in orientation NORTH and position 8.
   5. Tile x is in orientation NORTH and position 2.
   6. Tile ○ is in orientation EAST and position 5.
   7. Tile \* is in orientation SOUTH and position 7.
   8. Tile ◇ is in orientation SOUTH and position 1.
   9. Peg is in position 8.
2. 解题过程的存储：方块每移动一次，存储一次走的路，以它的种类开头，方向结尾，如◇S就是◇方块往南和相邻方块交换了一次位置；钉子每停止一次，存储一次，以p开头，**所有**走过的方向结尾，如pWNE就是钉子先往西走，再往北，最后往东，停在了一个可以停的方块上。

**Pass**

* Tasks #1, #2, #3, #4, #5, and #6

**Credit**

* Tasks #7, #8, and #9 *(in addition to all tasks required for Pass)*

**Distinction**

* Tasks #10 and #11 *(in addition to all tasks required for Credit)*

**High Distinction**

* Tasks #12 and #13 *(in addition to all tasks required for Distinction)*