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Algorithm Explanation:

In this assignment, with the help of the world.txt file in my computer, I draw the world in which the cat will travel. I stored the data of this world in a two-dimensional array with 40 rows and 40 columns.

This world consists of 0s, 1s, 2s and 3s. Each figure means another.

- ❖ 0 means this cell is clear, free space. Our cat can pass through this area. Free space represented by the colour of white in my code.
- ❖ 1 means wall. The world surrounded by walls and the cat cannot pass out of these walls. Wall represented by the colour of light grey in my code.
- ❖ 2 means sea. The cat does not prefer the sea among the options of the cell. Sea represented by the colour of book light blue in my code.
- ❖ 3 means food. If there is a cell containing food between the cat's options, the cat prefers this cell. Food represented by the colour of magenta in my code.
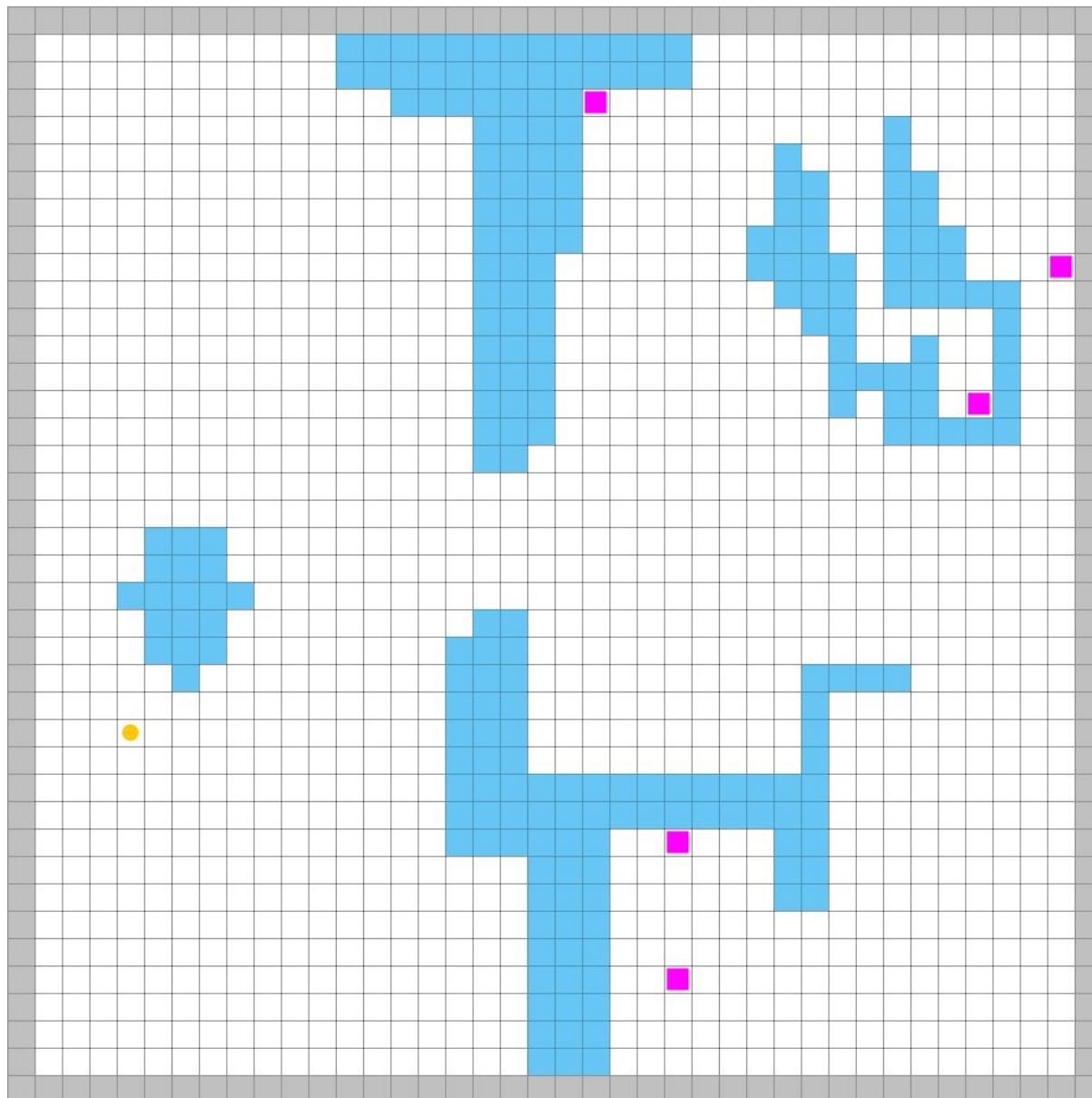
We provide these four aspects by changing the X and Y coordinates with adding 1 or removing 1). If these cells are empty (means no wall and no sea) or there is no cell containing food, we are randomly moving between the options with the help of the random library that we imported. As I explained above, if the food is available, the cat is firstly directed to the food. In order to indicate that a meal consumed, we make the cell white again(erase the food), and we increase the counter that counts the meals. I kept the status of eating in a boolean value. As the cat ate, I updated this value true. I chose the step counter with different values to see how many times the cat eat food when it moves.(5000, 10000, 20000). Finally, with the StdDraw.save method I saved the output like a picture.

Evaluation of The Outputs:

When the step counter equals to 5000:
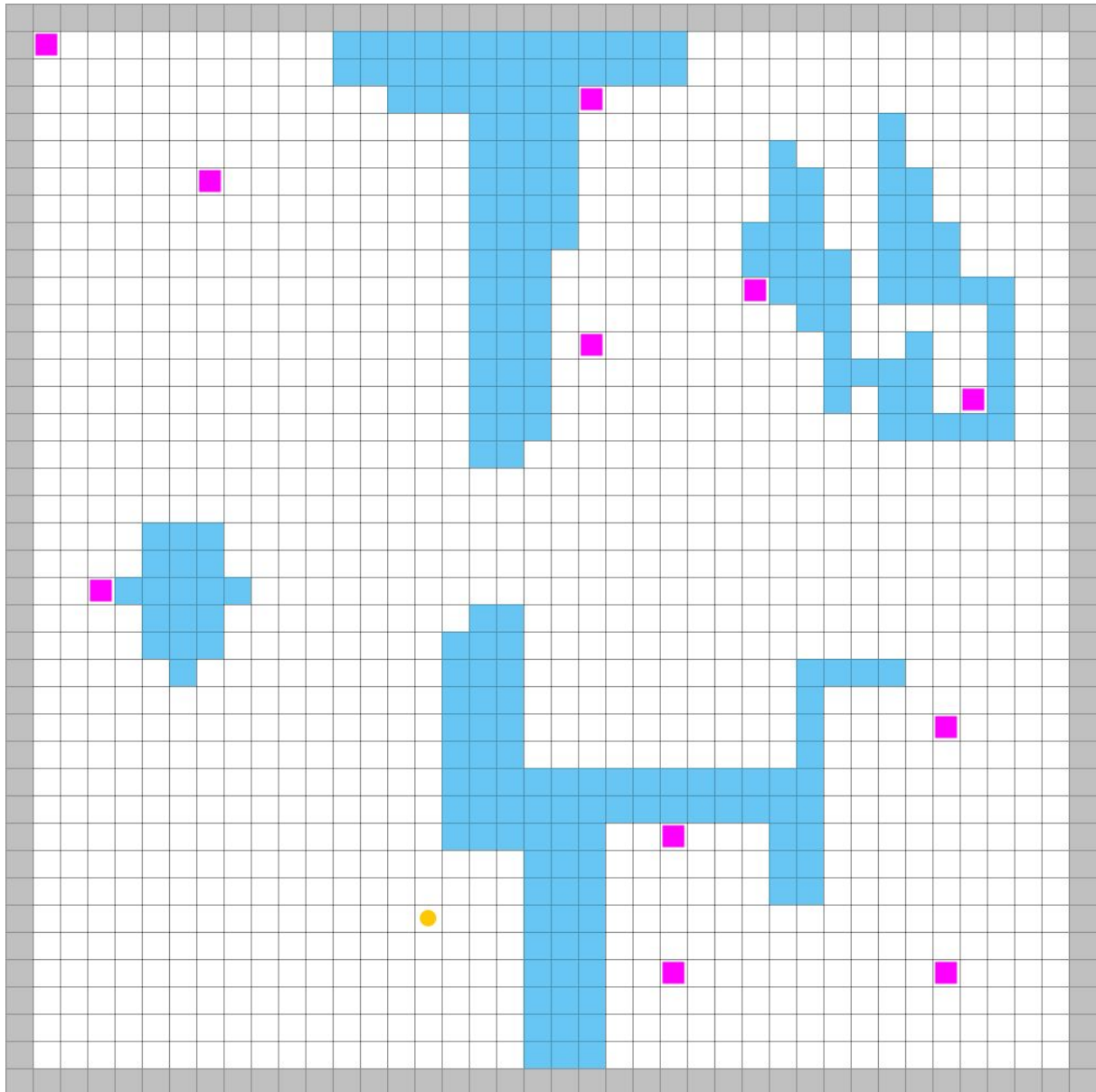
When the step counter equals to 10000:

When the step counter equals to 20000: