Solving a Maze

Begin with the maze class description and code in the text, in chapter 7.

Once you are comfortable with those, begin implementing the code. Start with the Maze code beginning on page 215, and you may also use the Stack code earlier in the chapter. If you wish, you may use the SolveMaze code on page 213 as well. You will probably need to make changes to all three codes.

Write the methods needed to complete the Maze class (`findPath()`, `reset()` and `draw()`).

Your main program, `solveMaze.py`, should take the filename from the command line, read in that file to make the maze you want to test, solve it (when possible), print a message telling of the success or failure, and finally print the (solved) maze, including the '`x`'s that show the path when it can be solved.

Create a class diagram for the Maze class. You may use DIA or Word or a similar program, but it must be a format that is easily read and/or printed. Each variable should have a type associated with it (where appropriate), and each method should say what type it returns.

Due midnight, October 26th.

Implementation Details:

- This project is for individuals, not for groups. Each student should submit his/her own work.
- You are not required to use Python 3, but I think you will find it easier to use Python for this assignment. If you use something besides Python 3, clear it with me first.
- You should submit three Python files: `maze.py` should contain the Maze class, `stack.py` should contain the stack class, and `solveMaze.py` should use the Maze class to solve the mazes in the input files.
- You should submit a file containing a class diagram for the Maze class. You may use DIA or Word or a similar program, but it must be a format that is easily read and/or printed.
- Your code should be as very readable. Include a "flower box" at the top of each file, and a docstring in each class and each function (except `__init__()`).
- You should submit your program source files and your class diagram file electronically on Blackboard.
- *Other implementation details or constraints may be specified as questions arise. Look to Piazza.com for any questions, clarifications or modifications on this assignment.*