MATH 2121 **Mathematical Modeling and Simulation** **Spring 2025**

Problem Set 6

(Out Tue 03/25/2025, Due Tue 04/01/2025)

Submissions are to be done by sending an email with subject `MATH 2121: Problem set 6` to the course instructor, containing: all requested Matlab files (called `yourfamilyname_problem6X.m`), plus a single file (PDF preferred), called `yourfamilyname_pset6.pdf`, that contains all requested explanations.

Problem 6

Modify the Matlab file `temple_abm_cellular_game_of_life_file_ic.m` from the course website `http://faculty.cst.temple.edu/~seibold/teaching/2025_2121/` to produce three interesting programs, submitted in the files `yourfamilyname_problem6a.m` , `yourfamilyname_problem6b.m` , and `yourfamilyname_problem6c.m` .

Each of these three files should run a different type of animation of Conway's Game of Life, with at least two interesting objects interacting with each other in non-trivial ways, in the spirit of the provided example of a glider gun shooting at a blinker ship.

Take the structures from an online resource like the website
`http://www.radicaleye.com/lifepage/glossary.html` (or other resources).
Make sure to submit the corresponding `*.txt` files of the objects with your codes.

Moreover, your file `yourfamilyname_pset6.pdf` should provide a brief discussion of each of your three examples: why did you compose it the way you did (it can be an artistic reason), and what interesting observations does the simulation reveal?