Assignment 1

2D "Super Bug Zapper" – Circles Generation

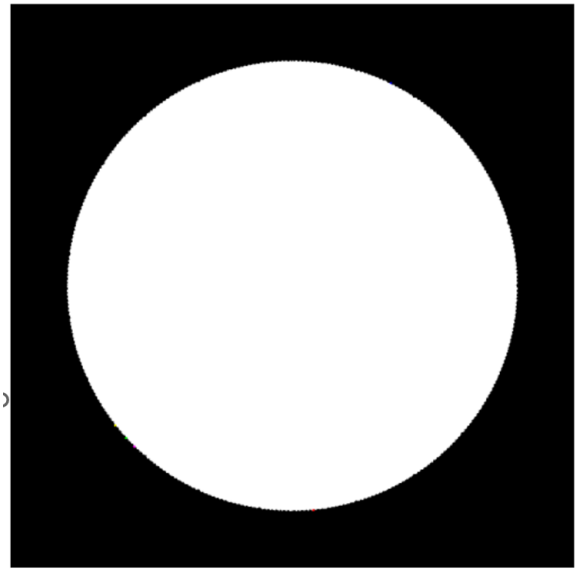
This is an individual assignment. This assignment is marked out of 10 points.

Due Date: February 2 Friday, 2024, 11:59PM

In Assignment 1 and the following Assignment 2, use WebGL and JavaScript (but not three.js), and the mathematics package that comes with the textbook (provided), to develop a two-dimensional interactive game "Super Bug Zapper" with the following features:

[4 point]

1. The playing field starts as a circular disk centered at the origin.
2. The player views the disk from above.

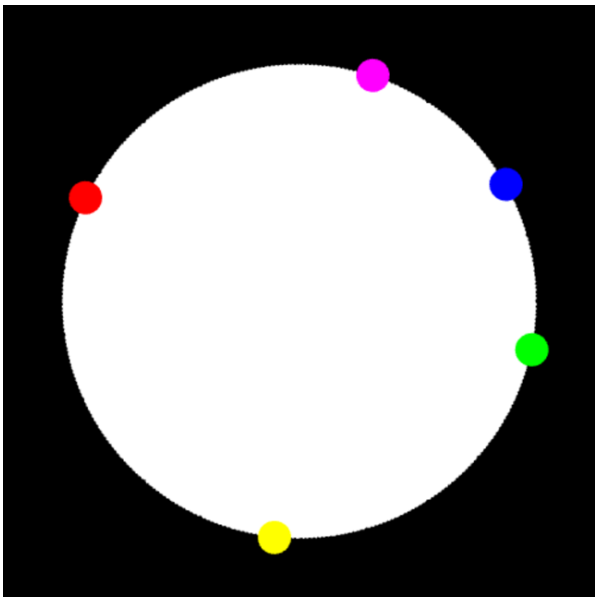


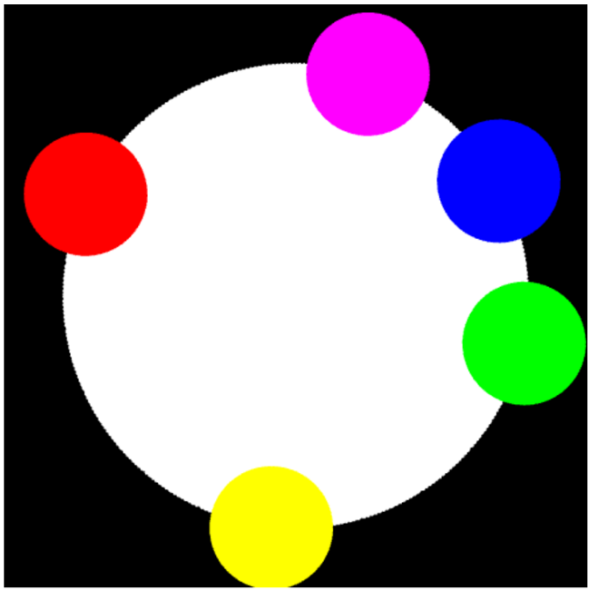
[3 point]

3. Bacteria grow on the circumference of the disk starting at an arbitrary spot on the circumference and growing out uniformly in all directions from that spot at a speed determined by the game.
4. The bacteria appear as a crust on the circumference of the disk.

[3 point]

5. The game can randomly generate up to a fixed number (say 10) of different bacteria (each with a different color).





Submission:

Electronic submission of source code and documentation will be through Canvas:

1. Submit everything as one zip file to Canvas.
2. This .zip file should contain all your source files plus the files specified in 3 below and the files should be correctly placed so that the program runs from a browser.
3. Include in your submission one .doc (or .docx or .pdf) file for a gallery of screen captures (with at most a 3-line explanation of each image). The screen captures should be complete and illustrate all aspects of the assignment requirements sufficient for marking needs.