Report for

4CS1PPA Coursework 3: The Game of Life

Team:

Haleema MohamMed (KXXXXXXXX)

Ahmet Taramis (K22038914)

# Description

In this report, we present our enhancements to the Game of Life simulation, where we started by updating the basic life form, Mycoplasma, with new rules. We also created two new life forms with unique behaviours: one that changes colour and another that changes its behaviour over time. Our work includes introducing advanced concepts like randomness, symbiosis, and disease to add complexity to the simulation. These additions make the simulation more interesting and demonstrate how simple rules can lead to complex patterns and interactions.

# Completing Base Tasks

## Base Task 1 - Modify rule set for Mycoplasma

Our first task was to give the Mycoplasma cell some rules to act upon each generation. These being: if the cell has fewer than 2 living neighbours it will die (underpopulation), if the cell has two or three live neighbours it will live on, if the cell has more than three live neighbours it will die (overpopulation) and if a dead cell has exactly three live neighbours it will come alive (reproduction).

To complete this task, we have added some conditional statements to the act() method inside the Mycoplasma class. We first make a list of living neighbouring cells then use the size() method. We the implement the rules above using “if” and “else” statements, which alter the living state of the cell for its’ next generation according to the rules given.

## Base Task 2 – Creating two new life forms

Using the Mycoplasma cell as an example we were given a task to create two new life forms with its’ own unique rule set. To tackle this task as a pair we chose to do 1 new cell each, testing and reviewing each other’s code and giving feedback along the way.

#### Chroma Cell By Ahmet Taramis (K22038914)

\*Dsecription for Chroma Cell\*

#### \*New Life Form 2\* By Haleema Mohammed (KXXXXXXXX)

\*Description for new life form\*

# Completing Challenge Tasks

\*General description for challenge tasks\*

## Diseased Cells

Ahmet Taramis (K22038914)

XXX

## \*Challenge 2\*

Haleema Mohammed (KXXXXXXXX)

XXX

## \*Challenge 3\*

Ahmet Taramis (K22038914)

XXX

## \*Challenge 4\*

Haleema Mohammed (KXXXXXXXX)

XXX

# Game & Code Walk-Through

XXX

# Conclusion

XXX