

## COSC 4P82 Assignment 2 Marking Scheme

**TOTAL: 75**

### Part A - Predator-Prey

#### A. Experiment/System design: 20

- fitness evaluation: 3
- GP language: 4
- Working simulation: 3
- Trace file dump of solution behaviour: 2
- Reasonable comparative experiments: 4
- multiple runs (min 10): 2
- reasonable parameter choices: 2

#### B. Report: 55

- Introduction: 5
  - Describe the problem, and the goal of experiments.
- Experiment description (setup): 20
  - parameters listed: 10
    - initial tree generation (size range)
    - max tree size
    - crossover/mutation rates
    - max generations
    - tournament size
    - # runs
  - Language listed, all functions/terminals described: 5
  - Fitness formula with description: 5
- Results: 23
  - Performance graphs, suitably labelled and discussed: 6
  - Summary tables (discussed) : 5
  - Discussion of experiment results, including comparisons of experiments: 10
  - show 2 solutions (programs, traces): 2
- Conclusion: 5
  - summarizes paper
  - mention strengths, things requiring more work, future directions/improvements
- Bibliography: 2
- Use of ChatGPT or other AI LLM to write report: **-50% (28 marks)**

**Part A total:** \_\_\_\_\_ (A; max 20) + \_\_\_\_\_ (B; max 55) = \_\_\_\_\_ (max 75)

## Part B - Evo-Art and Procedural Textures

### A. Experiment/System design: 20

- fitness evaluation: 3
- GP language: 7
  - Includes a 'fancy' noise-based generator function (else -2)
- Reasonable comparative experiments: 4
- multiple runs (min 10): 2
- reasonable parameter choices: 2
- Generate large image at end of run: 2

### B. Report: 55

- Introduction: 5
  - Describe the problem, and the goal of experiments.
- Experiment description (setup): 20
  - parameters listed: 10
    - initial tree generation (size range)
    - max tree size
    - crossover/mutation rates
    - max generations
    - tournament size
    - # runs
  - Language listed, all functions/terminals described: 5
    - cite source of noise functions (else -2)
  - Fitness formula with description: 5
- Results: 23
  - Performance graphs, suitably labelled and discussed: 6
  - Summary tables (discussed): 5
  - Discussion of experiment results, including comparisons of experiments: 10
    - Greyscale: 4
    - RGB: 6
  - show at least 2 solutions (expressions and images): 2
- Conclusion: 5
  - summarizes paper
  - mention strengths, things requiring more work, future directions/improvements
- Bibliography: 2
- Use of ChatGPT or other AI LLM to write report: **-50% (28 marks)**

**Part A total:** \_\_\_\_\_ (A; max 20) + \_\_\_\_\_ (B; max 55) = \_\_\_\_\_ (max 75)