Department of Computer Science

Summative Coursework Set Front Page

Module Title	Object-Oriented Programming
Module Code	CS2OP
Lecturer responsible	Prof Richard Mitchell
Type of Assignment (e.g. technical report, portfolio exercise, in-class test)	Coursework
Individual or Group Assignment	Individual
Weighting of the Assignment	20%
Word count/page limit	n/a
Expected hrs spent for the assignment (set by lecturer)	Weekly Lab sessions + 5 hours
Items to be submitted	Link to Git Repository which should include scan of marked self assessment form
Work to be submitted on-line via Blackboard Learn by	Week 7
Work will be marked and returned by	Within 15 working days
Artificial Intelligence Tools (select one of these)	May be used to support work

Note

By submitting this work you are certifying that you have read the assessment guidelines which are displayed at the top of the Assessment Folder on the Blackboard course for this module, and that you have conformed to the associated policies and practises, including those on

- Submitting your own work, not that of other people or systems (including those using artificial intelligence), and the associated penalties for Academic Misconduct
- Submitting by the specified deadline, and the penalties associated with late submission (if allowed)
- The exceptional circumstances system (for applying for extensions)
- The use of a green sticker for students with relevant needs

1. Assessment classifications

First Class (>= 70%)	Well demonstrated Functional simulation of robots Appropriate file handling, Suitably commented Adhering to relevant object oriented principles
Upper Second (60-69%)	Has four of the above
Lower Second (50-59%)	Has three of the above.
Third (40-49%)	Has two of the above.
Pass (35-39%)	Has one of the above
Fail (0-34%)	Has none of the above

2. Assignment description

You are to develop a simulation of robots moving around an arena, displayed in a console interface (which shows their student number). The user should be able to define the arena size, add robots, simulate their movement, save the simulation to a file and load one from a file.

The simulation is to be developed in the lab classes timetabled in weeks 3, 4 and 5, using a set of classes specified in the associated lab sheets.

Students will self assess their finished code, by filling in the form provided. They will then demonstrate their program and show their code to a marker who will adjust the self-assessment where necessary, providing a final mark and relevant feedback verbally.

The concepts learnt during this coursework will inform the development of the main coursework, in which the simulation will have a greater variety of objects in the arena which will be displayed in a graphical user interface.

3. Assignment submission requirements

The code written should be stored in GitLab which should also include a scan of the marked demonstration form below uploaded after the demonstration. The link to the GiLab repository should be submitted.

4. Marking Scheme

This is shown on the Demonstration Mark form.

Coursework #1: Demonstration Mark Form

Print this out, fill in your assessment in the Mark column and then the Total column **BEFORE** the demonstration and then demonstrate your program and explain your code to the marker

Your Student Number	32025021	**MARK :** 100

	Student's own assessment	Mark	Total	Marker's View	Mark awarded
1.	**Overall** – tick which applies • Crashes • Displays arena only • Displays arena and Robots only • Displays and animates Robots	 0 3 6 10	10		0-10 10
2.	**Class Robot** • Constructor • Suitable data including identifier • Robot moves suitably • I understand and can explain it	 /3 /5 /3 /4	15		0-15 15
3.	**Class RobotArena** • Uses arraylist of Robots • Suitable configuration methods • Methods for moving • I understand and can explain it	 /3 /3 /5 /4	15		0-15 15
4	**Class ConsoleCanvas** • Has suitable data and border • Displays console • I understand and can explain it	 /4 /3 /3	10		0-10 10
5.	**Enum Direction** • Has basic functionality • Has random functionality	 /5 /5	10		0-10 10
5.	**Class RobotInterface** • Suitable menu • Lists information about Robots • Animates and displays Robots • I understand and can explain it	 /3 /2 /2 /3	10		0-10 10
6	**On New and File** • New works • Save works • Load works • I understand and can explain it	 /3 /4 /4 /4	15		0-15 15
6.	**My Code** • has good structure • uses access modifiers • uses suitable short functions • has good comments • has good layout	 /3 /3 /3 /3 /3	15		0-15 15

Signed and dated (student): 15 Nov 2024 **Signed (marker):**