Assignment Brief: Comp1421 Foundations of Computing 2020-21

Assignment 001	Report with annotated code
Word Limit or equivalent (e.g. time)	1500 words
Weighting	25%
Learning Outcomes Assessed	ILO1: Apply algorithms to solve real-world computational problems
Submission date	Friday 4th December 2020
Feedback date	All assignment feedback will be issued on the 20th working day following the submission deadline. Feedback will be released on: Friday 8th January 2021
Module Leader	Colin Price
Verified by	Chris Bowers

Contents

If anything about this assignment is not clear to you, please contact your module leader.

You are expected to plan your time and work to manage your overall assessment workload.

What do I need to do?	Choose **one** algorithm you have worked on in the module sessions. Here are some suggestions. • Calculate the minimum and maximum element in an array of numbers • Calculate the average of an array of numbers, and state if it is zero. • Search for a given number in an array of numbers • Sort an array of numbers, from the smallest to the largest • Drive an obstacle-avoidance robot using a Finite State Machine Your report will contain the following two major parts. 1. The flow diagram for your algorithm, and discuss how this shows the **control flow** for the algorithm. 2. Java code for your algorithm (which can run) including comments. You may use either in-line comments (using the // approach) or the "says" comments using the WBEngine. Your comments should include • The **goal** of the code, and any sub-goals • One example of **data flow** in your code.

How should I present my work? **Report Template**	You will be able to gain the highest grade for 1500 words. **However, you will not be penalized for exceeding this limit.** Your report should be structured as follows: 1) Title page: Student number, module name and number, assessment title. 2) Grading Matrix 3) Report Body. Note that sections b) and c) will attract most marks: a) **Introduction**. State the algorithm you have chosen and what it is intended to do (its **goal**) b) **Flow diagram**. Explain how this diagram captures the operation of the algorithm, especially how it shows **control flow**. c) **Annotated code**. Use either the "//" approach or the WBEngine "says". You should look for 'chunks' of code, and explain the **goal** of each chunk, rather than annotating each line. You must give one example of **data flow**. d) **Conclusion.** You should indicate how the flow diagram and the code are related. You are not required to cite any references for this assignment You should save your work with the title **Comp1421-Ass01-Student Number**.

How can I obtain guidance?	This assignment will be introduced at the beginning of the module. Detailed guidance will be provided during the session, **w/c 9th November 2020.** You must demonstrate the assignment you submit is your own work and that it does not fall foul of plagiarism (copying someone else's work without an appropriate attribution). The library guide will provide more advice and support http://libguides.worc.ac.uk/guides/study-skills/plagiarism.

How and when do I hand my assessment in? (delete whole section if 100% exams)	Your work must be word-processed/typed and should clearly show your student number. You should submit your work by the 3pm deadline on Friday 4th December 2020. You should submit your work to Blackboard which is available via your student portal **You are required to keep a copy of work handed in**. See the University's guide to uploading and submitting assessment items via Blackboard: https://help.blackboard.com/Learn/Student If you have issues with Blackboard you will need to contact tel@worc.ac.uk

How will my assignment be marked?	Specific marking criteria for your assignment is provided in the Grading Matrix, which can be found on page 5. You are strongly advised to check your completed work against the Grading Matrix to ensure have completed all areas required before you submit it. You should also ensure you adhere to the word limit / word count stated in your assessment brief document, details of which can be found in the University's Assessment Policy http://www.worc.ac.uk/aqu/documents/AssessmentPolicy.pdf

How will I get feedback?	All assignment feedback will be issued on the 20th working day following the submission deadline. You will receive your feedback via SOLE by Friday 8th January 2021. You will receive formative feedback on the work you have completed so far during week commencing 9th November 2020. In addition to formal assignment feedback, you will receive feedback during lectures, workshops and assignment briefing sessions to help you improve your learning. This feedback may be provided from a variety of activities e.g. tutor-to-student meetings, group and/or class discussions, group activities, etc.

What do I do if I have problems which prevent me from submitting my work?	**It is essential that you submit your work, in order to be able to pass the module. However, if you are unable to submit your work on time you must contact your Module Leader or Personal Academic Tutor.** Unless you have an application for mitigating circumstances accepted, if you submit your work late, but within 7 days of the due date, you will have your work marked but the grade will be capped at the minimum pass grade. For full details of submission regulations see Taught Courses Regulatory Framework at: http://www.worcester.ac.uk/registryservices/documents/TaughtCoursesRegulatoryFramework.pdf

What do I do if I am ill or have personal problems?	There may be occasions when you are unable to submit a piece of assessed work on time or attend an examination or presentation due to exceptional and unforeseen reasons that are outside of your control. If this occurs, you may be able to submit a claim for Mitigating Circumstances. This means that if your claim, which must be supported by independent evidence, is accepted your work will be marked or you will be allowed to resubmit the assessment or retake the examination. Full details of Procedures for Dealing with Exceptional Mitigating Circumstances are available at http://www.worcester.ac.uk/registryservices/679.htm

What will happen if I engage in academic misconduct (cheating)?	Academic Misconduct is defined by the University as any attempt to gain an unfair advantage in an assessment or helping another student to gain an unfair advantage. This can involve • Using material sources without acknowledging them using a recognised referencing system. • Copy another student's work. • Allowing another student to copy your work • Claiming that you have undertaken research that you have not e.g. surveys, interviews etc. If you are suspected of Academic Misconduct you will be referred to the School's Academic Integrity Tutor and may face further penalties. Penalties may extend beyond the single assignment, and may affect your module grade or even the classification of your final award. **Academic Misconduct will be included in any reference provided for you be the University.** Details in your Course Handbook accessible via SOLE and at https://www2.worc.ac.uk/registryservices/documents/Proceduresforinvestigationofallegedacademicmisconduct.pdf

What if I don't pass my assignment at my first attempt?	DON'T PANIC. In the event you are required to take reassessment you will receive formal notification of this via a letter from Registry Services *posted on the SOLE page* after the meeting of the Board of Examiners. The letter will normally include a copy of the reassessment task(s). Deadlines for re-assessment can be found in the University Calendar at http://www.worcester.ac.uk/registryservices/655.htm

Grading Matrix
This matrix captures the assessment criteria for this part of the coursework.

	Student Number:	**Academic Year and Semester:** 2020-21 S1-2	**Learning Outcomes:** ILO1: Apply algorithms to solve real-world computational problems
	Module Code/Title: Comp1421 Foundations of Computing	**Assignment No/Weighting:** Ass 1 25%	
	Occurrence: A and B	**Assessment Title:** Report with annotated code	

	Assessment Criteria			
GRADE	**Flow Diagram (30%)**	**Discussion of Flow Diagram (30%)**	**Algorithm Code and Annotations (30%)**	**Clarity of Presentation (10%)**
A	Correct diagram with good choice of variable names. Use of both selection and iteration constructs.	Thorough discussion. The purpose of the entire flow-diagram structure is explained.. Control flow is explained making reference to variables.	Correct code. Good *commenting* on both goals and data flow. Good indication of the relationship between flow diagram and code.	Report is written with correct English spelling and grammar. Conforms to the template provided. Connexions between the report sections are strong, and produce a very *coherent* report.
B	Correct diagram with use of both selection and iteration constructs.	Good discussion of the main features of the flow-diagram structure. Good explanation of control flow.	Correct code. Good *commenting* on either the goals or data flow, general comments on the other. Mention of relationship between flow diagram and code.	Report is written with correct English spelling and grammar. Conforms to the template provided. In addition some connexions between report sections are made.
C	Correct diagram with use of either the selection or the iteration construct.	Adequate discussion of the major blocks and ofcontrol flow.	Correct code with general *comments* referring to goals and data flow.	Report is written with correct English spelling and grammar. Conforms to the template provided
D	Some parts of the	Attempt at discussing the	Partially correct code. Attempt to	Report has a poor quality of

	diagram are correct.	blocks and control flow, thought this may be partially correct.	provide *comments*, most of which are correct.	spelling and grammar. Attempt to use the template provided.	
Fail (E-H)	Incorrect diagram, or no diagram presented.	No attempt at discussing control flow, or incorrect discussion.	Incorrect code. No attempt at *commenting*, or *comments* are incorrect.	Report is barely comprehensible; it does not convey much meaning to the reader.	
	General comment:				
	What you can do better in future assignments:				
	How successful completion of this assignment helps your employability:				
	Assignment Grade:	**Marker:** Colin Price	**Moderator***: Chris Bowers		

** This person is responsible for moderating a sample of student work for this module. Your work may, or may not, have been included in this sample*

□ I do not want my work to be used anonymously to help future students

RESULTS ARE PROVISIONAL UNTIL AGREED BY THE BOARD OF EXAMINERS