011 Element Design and implementation report (equivalent to 4500 words) (2021 MOD003484 TRI1 F01CAM)

Due 9 Dec 2021 by 14:00 **Points** 100 **Submitting** a file upload **Available** until 16 Dec 2021 at 14:00

By submitting, I understand that the piece of work submitted will be considered as the final and complete version of my assignment of which I am otherwise the sole author. I understand both the meaning and consequences of plagiarism and that my work has been appropriately attributed unless otherwise stated. I have not knowingly allowed another to copy my work. Please read our **Academic Honesty Policy (https://library.aru.ac.uk/academic/files/Academic%20Honesty%20Policy.pdf)** here.

This assignment was locked 16 Dec 2021 at 14:00.

Assessment Format:	CW - Report
Mode of Submission:	Canvas: Online submission via Canvas It is not recommended to submit via the Canvas App due to some limitations in the App functionality. We would suggest instead that submission is made on a browser from a computer or mobile device. It is not recommended that you submit your assignment or take a quiz on a cellular or satellite connection. This is because loss of internet connection during assessment is most commonly associated with these services, although we understand that sometimes this is the only option. Wherever possible, we would recommend that assessments are submitted or undertaken on WiFi or hardwired (ethernet) connections. Large files are best submitted on a hardwired internet connection (i.e., not WiFi).
Weighting:	This assessment is worth 80% of the Module mark
Assessment Level:	4
Element Learning Outcomes:	*The element learning outcomes for this assessment are: 1-5*
Marking Approach:	Fine-graded
Feedback Release Date:	05/09/2022

2020/21 Assessment Information Form:- (2020 MOD003484 TRI2 F01CAM) Element:- 011

What the Canvas Due Date and Time (above) represent for this assessment	Your assessment must be submitted by the date and time shown			
Descriptive Title	Individual Java Coding Project			
What is being submitted	DESIGN AND IMPLEMENTATION REPORT (EQUIVALENT TO 4500 WORDS)			
Module and Section	Software Principles (2020 MOD003484 TRI2 F01CAM)			
INFORMATION	**Learning Outcomes**	LOs 1,2,3,4	**Weighting**	80%
	Learning Level	**Level 4 (https://library.aru.ac.uk/module_guide/modguide_level4_asst_crit.pdf)**		
	Marking Approach	Fine-graded		
Submission	**Location/Mode**	**Turnitin (Click Here)**		
Feedback:	**Location/Mode**	Turnitin	20 Working days after submission	
Marker(s)	DR Md Mahmudul Hasan			
Moderator(s)	Dr Razvan-Ioan Dinita			

2020/21 Assessment Description Form:- (2020 MOD003484 TRI2 F01CAM) Element:- 011

Assessment Description

Please be aware that this assessment is individually submitted and NO parts of it may be completed as a group. You are **NOT** allowed to work on any parts of this work in groups. Please do **NOT** plagiarise.

Based on the project chosen for element 010 and the report submitted by your team you are to produce a Java based application to implement your design. You are not expected to produce a GUI application for this assignment and all interaction should be accomplished through the console.

Your Java project should meet the following minimum requirements.

- Contain a header comment at the top of the application class including your SID number and which team you were in for element 010 of the assignment.
- Contain at least two classes that are implemented in the project in addition to the application class.
- Contain a range of class attributes within all implemented classes (for example int, list, String, Boolean etc).
- Contain at least four implemented methods across all classes.
- Include a range of code statements within the main() method of the application class to illustrate the use of all implemented classes as well as their methods and attributes.
- Names of classes, methods and attributes should be taken from the work produced for element 010 of the assignment.
- If you find it necessary to deviate from the plan set out in your submission for element 010 then you should briefly explain the reasons for any changes made in the comments of your code.

The quality of your code matters and has a significant impact on your final mark. You should use best coding practice (information will be provided in lectures and tutorials) and you should include sufficient comments in your code to establish the relationship to your initial planning document (element 010) as well as your understanding of the code.

Intended learning outcomes for the assessment

1	Knowledge and Understanding	Use a range of techniques for problem decomposition, decision modelling and algorithm design such that, within a simple problem description, appropriate variables, decisions and repetitive actions can be identified and translated into appropriate code constructs.
2	Knowledge and Understanding	To understand programming language families, and competing models of the software development life-cycle.
3	Intellectual, practical, affective and transferrable skills	To select appropriate tools and techniques to analyse and design solutions to specific simple scenarios.
4	Intellectual, practical, affective and transferrable skills	To create simple scripts to perform a number of operations in turn to achieve a desired effect and to understand the purpose and syntax required to perform conditional and loop statements.

Other skills and competencies

An understanding of referencing systems and appropriate writing style will also be covered.

Marking scheme, criteria or rubric

Project Structure (25%)

- To include Base Java Project and at least two Classes
- The names should be directly taken from the relevant Diagrams
- Commenting and code structure should meet required standards

Class Attributes (25%)

- To include a range of relevant attributes within all implemented Classes of varied data types and data structures (e.g.: int, string, list, etc.)
- The names and types should be directly taken from the relevant Diagrams

Class Methods (35%)

- To include at least 4 relevant methods (e.g.: ShowUsage, SearchForCar, etc.) across all implemented Classes
- The names, parameters, and return types should be directly taken from the relevant Diagrams

Code illustrating the usage of all Classes (15%)

- To include a range of code statements within the main() method illustrating the usage of all implemented classes and their methods and attributes.

Based on standard ARU marking scheme.

Links to Supporting Materials

Information relevant to the topics required for the report are provided in each of the lectures for the module. Specific links to each topic will be provided as they are covered in the delivery.

Please see the link to the module reading list in the left menu of this page.

Assessment Literacy

This is a coding assignment and good coding practice including well structure code, appropriate indentation and comments should be used throughout. Details will be provided in the lectures from week 5 of the trimester.

Your work is to be submitted Via TurnItIn and it is your responsibility to ensure that you know how to access the TurnItIn system. You must compress (Zip) your code files and the final zip file must be less than 100Mb in size. As many students will be submitting their work at the end of the trimester you are encouraged to submit your work well before the deadline to avoid any system congestion.

Feedback will be provided on TurnItIn and you will be able to view this feedback after the marks are confirmed. This is typically 20 Working Days after the submission deadline.

Click here for Assessment Support: