



UTM
UNIVERSITI TEKNOLOGI MALAYSIA

SCHOOL OF COMPUTING
Faculty of Engineering

Semester I 2021/2022

Subject : Data Structure and Algorithm (SECJ2013)
Section : 01/06/15
Task : Assignment 1
Due : 11/12/2020
1. Report (submit softcopy (.pdf))
2. Presentation (youtube link/gdrive link)

Instruction:

Techniques Used Sorting and Searching

1. REPORT-50%

1. Identify attributes and member functions suitable for each case.(10M)
2. Draw the class diagram. Draw use case diagram that shows the user and functionality of the system. (10M)
3. Write the implementation function for the member function.(10M)
 - i. Write main() program that will declare an array of class and read information about the instance from data file.
 - ii. Implement all member functions through the elements of the array.
4. Choose any sorting technique and searching technique. Sort the array based on certain key and perform searching based on certain criteria. The system must be used at least 2 users and you need to provide menu for the users. Use data file concept to get the data for your system. Detailed descriptions include problem and solutions. (20M)

2. PROGRAM-50%

Criteria	Excellent 10-8	Good 7-6	Fair 5-4	Poor 3-0
Completeness (10marks)	All components are present and complete.	All components are present, but some are somewhat incomplete.	One or more components are missing, or all components are severely incomplete.	No genuine attempt at a complete solution.
Correctness (10marks)	All components are completely correct.	At least one component contains a minor error.	At least one component contains a major error.	Multiple major errors, or an entirely incorrect response.
Style (10marks)	A professional, polished tone and format are maintained throughout the solution.	Minor issues of tone, voice, spelling, punctuation, or formatting.	Major tone or presentation issues.	Exceedingly terse, sloppy, or otherwise unpolished writing.
Clarity (10marks)	All components are clear, organized, and easy to follow.	Occasional or minor issues of clarity, causing confusion that can be overcome by careful reading and charitable interpretation by the reader.	Truly confusing writing that can only be interpreted with significant effort.	Exceedingly confusing writing.
Precision (10marks)	No meaningful ambiguity.	Occasional or minor issues of precision, causing meaningful ambiguity that can be overcome by charitable interpretation by the reader.	Major precision errors that cause meaningful ambiguity in the interpretation of the solution, which can only be resolved with difficulty.	Severely underspecified instructions, definitions, claims, or arguments.
Conciseness (10marks)	Direct and to the point, without sacrificing appropriate	Occasional extraneous writing.	Very long-winded, redundant, or extraneous writing.	Exceedingly longer writing than is necessary for the clear, precise

	clarity or precision.			expression of the ideas in the solution.
Prototyping (10marks)	Prototyping provides a solution for user needs.		Prototyping provides partial solution for user needs.	Little or no prototyping accomplished.
Test (10marks)	Demo and test the prototyping to the users.	Demo and test partial prototyping to the users.	Demo and test little progress for the prototyping.	No prototyping.
Formatting & table of content (10marks)	Excellent use of fully formatting in MS Word	Good use of fully formatting in MS Word	Fairly use of formatting in MS Word	Poorly use of formatting in MS Word
Timeliness (10marks)	Report on time		Report one day late	Report more than one day late