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|  | | **ASSIGNMENT COVER PAGE** | | | C:\Users\hoching.tay\Desktop\Lincoln_UK_06092017-01.png |
| **Programme** | | | **Course Code and Title** | | |
| Bachelor of Computer Science (Hons)/  Bachelor of Computer Science (Hons) In Computer & Network Technology/  Bachelor of Software Engineering (Hons) | | | CPR3113/N Principles of Programming | | |
| **Student’s name / student’s id** | | | **Lecturer’s name** | | |
|  | | | Tan Phit Huan | | |
| **Date issued** | **Submission Deadline** | | | **Indicative Weighting** | |
| Week 3 - 26/09/2022 | Week 12 – 02/12/2022 | | | 30% | |
| **Assignment 2 title** | Functions, Arrays and Files | | | | |
| This assessment assesses the following course learning outcomes | | | | | |
| **# as in Course Guide** | **UOWM KDU Penang University College Learning Outcome** | | | | |
| LO3 | Implement function and arrays in problem solutions. | | | | |
| LO4 | Develop programs that create, read and write files. | | | | |
| **# as in Course Guide** | **University of Lincoln Learning Outcome** | | | | |
| LO1 | Identify, select, and apply appropriate data structures and operators in common programming solutions | | | | |
| LO3 | Apply object-oriented principles to the implementation of software programs | | | | |
| LO3 | Using appropriate knowledge of programming concepts, construct code segments and functions to perform input and output operations with error handling | | | | |
| LO1 | understand the time and space efficiency of algorithms and how to calculate/estimate/evaluate and improve them | | | | |
| **Student’s declaration** | | | | | |
| I certify that the work submitted for this assignment is my own and research sources are fully acknowledged.  Student’s signature: Submission Date: | | | | | |

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| **Dates and Mechanisms for Assessment Submission and Feedback** | |
| **Mechanism for handout to students** | OpenLearning LMS |
| **Mechanism for submission of work by student** | *Soft copy online submission via OpenLearning* |
| **Date by which work, feedback and marks will be returned to students** | 16th December 2022 |
| **Mechanism for return of assignment work, feedback and marks to students** | Feedback will be provided by a marking template. This will be available to students via Open Learning. The discussions at the walkthroughs will also provide informal feedback |

# COURSEWORK SUBMISSION GENERAL INFORMATION

# Academic integrity statement

You must adhere to the university college regulations on academic conduct. Formal inquiry proceedings will be instigated if there is any suspicion of plagiarism or any other form of misconduct in your work. Students must **NOT** collude with other groups of students or plagiarise their work.

# Nature of the submission required

A soft copy of your assignment in **PDF version** should be submitted to lecturer, no later than the date and time stipulated on the cover sheet. In addition, an electronic copy of your work must be submitted to Turnitin. The first page of your report, immediately after the cover page, must be a page from Turnitin clearly showing your name and your Originality Score (Please refer to [submission arrangement](#_Submission_arrangement)).

Diagrams may be used where they are helpful to support your arguments or description. If they are not your own work, the source must be referenced. Please help us to handle and mark your work efficiently.

Please take note for group submission, only **one submission per group**. This will contain both the group and individual elements. The individual element must be clearly labelled to indicate which group member completed the task.

# Documentation guidelines

Student is required to submit a **SOFT COPY** of the report and ensure that it uses the following formatted styles: 1) Font type: **ARIAL**, 2) Font size: **11** **pt**., 3) Line spacing: **Single spacing** and 4) Page layouts: **Justify**. Please make sure you have proper format alignment for all paragraphs, following standard writing style and use **HARVARD CITATION STYLE** for citation. Please include a **HEADER** with the following information: **Student ID, Student name, Course code and Assignment type**. Please also include a proper cover page for your submission which contains information about the students, assignment, course, and department with UOW Malaysia KDU Penang University College and University of Lincoln (UoL) logos on top. Also include page number and a list of references, which is shown on the last page.

# Penalties for late submission

For late submission of this Assignment, a penalty of a reduction by 10% of the maximum mark may be applicable for each Calendar Day or part thereof that the submission is late. An Assignment submitted more than **TEN** Calendar Days after the deadline will have a mark of zero recorded for this Assignment.

# Submission arrangement

1. Cover page
2. Table of Content
3. Main Report
4. References or Bibliography (whichever applicable)

# Assignment instructions/Background

You are to enhance the membership management system from previous assignment to perform the following functions:

1. Load the patient’s name, identification number and blood type from a text file. The format of record is Patient Name#Identity card number#Blood type. A sample file will be provided.
2. Prompt the user to key in the height and weight for each patient.
3. Calculate the BMI and determine the weight status for each patient as stated in Assignment 1.
4. Store the patient’s record in arrays.
5. Calculate the mean and standard deviation for the height and weight of patients.
6. Write the record of each patient, the mean and standard deviation for the group of patients, and also the name of the highest and the heaviest patients into a text file.

## You are required to subdivide the problem into smaller subtasks or modules and use appropriate array data structure to store the data.

You are free to design the interface or menu design.

**Handing in your work**

Main report should contain the following:

* Java source code.
* Description of the program with some screenshots of the running program and explanation.

**This is an individual assignment. *Each student*** *should upload the document in PDF and Java source code (.java files) in a zip file to the link provided in OpenLearning.*

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| **CPR3113/N Principles of Programming**  **MARKING RUBRIC - ASSIGNMENT 2 : Functions, arrays and files (30%)** | | | | | | | | | |
| **Functions and Array for Task 2 - 5 (50%)** | | | | | | | | | |
| **LEARNING OUTCOME** | **MARKING CRITERIA** | **SCALE** | | | | | | | |
|  | **Fail**  **(0-49)** | **3rd Class**  **(50-59)** | **2nd Lower Class**  **(60-69)** | **2nd Upper Class**  **(70-79)** | **1st Class**  **(80-100)** | **YOUR MARKS/COMMENTS** | | |
| 100% | Weightage | Actual Marks |
| **CLO3** | **Code Quality**  **(10%)** | Very poor coding which is hard to understand. Little use of comments. Poor naming of almost all classes, methods and variables. | A poor attempt; which may be several problems with structure, or very little use has been made of comments, or the naming of classes, methods and variables are unsatisfactory in a significant number of cases. | A fair attempt; the code is of reasonable quality with several omissions of naming and use of comments. | Generally, a good attempt, making use of comments, and where the majority of classes, variables and methods have been appropriately named. However there may be several omissions of Javadoc comments, and the code. | Good use of commenting throughout, including Javadoc comments for the vast majority of classes, methods and variables. |  | 0.10 |  |
| **Modularity (use of classes/functions and array)**  **(10%)** | Does not demonstrate any proper use of classes/ functions/ collection. | Demonstrate some limited use of classes/ functions/array. | Demonstrates appropriate use of classes/ functions/array. | Demonstrates proficiency in use of classes/ functions/array. | Demonstrates mastery in the use of classes/ functions/array. |  | 0.10 |  |
| **Program execution and output quality**   * **Getting input** * **Calculate mean and standard deviation**   **(30%)** | Program does not able to compile. | Program executed with runtime error but achieve partial program requirements. | Program executed error free with limitations to achieve minimum program requirements. | Program executed error free with correct output and achieve all program requirements. | Program executed error free with excellent output with appropriate validation. |  | 0.30 |  |
| **Total (50%)** | | | | | | |  | | |

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| **Reading and Writing Files for Task 1 and 6 (50%)** | | | | | | | | | | |
| **LEARNING OUTCOME** | **MARKING CRITERIA** | | **SCALE** | | | | |  | | |
| **Fail**  **(0-49)** | **3rd Class**  **(50-59)** | **2nd Lower Class**  **(60-69)** | **2nd Upper Class**  **(70-79)** | **1st Class**  **(80-100)** | **YOUR MARKS/COMMENTS** | | |
| 100% | Weightage | Actual Marks |
| **CLO4** | **Code Quality**  **(10%)** | | Very poor coding which is hard to understand. Little use of comments. Poor naming of almost all classes, methods and variables. | A poor attempt; which may be several problems with structure, or very little use has been made of comments, or the naming of classes, methods and variables are unsatisfactory in a significant number of cases. | A fair attempt; the code is of reasonable quality with several omissions of naming and use of comments. | Generally, a good attempt, making use of comments, and where the majority of classes, variables and methods have been appropriately named. However there may be several omissions of Javadoc comments, and the code. | Good use of commenting throughout, including Javadoc comments for the vast majority of classes, methods and variables. |  | 0.10 |  |
| **Modularity (use of classes/functions)**  **(10%)** | | Does not demonstrate any proper use of classes/ functions/ collection. | Demonstrate some limited use of classes/ functions/array. | Demonstrates appropriate use of classes/ functions/array. | Demonstrates proficiency in use of classes/ functions/array. | Demonstrates mastery in the use of classes/ functions/array. |  | 0.10 |  |
| **Program execution and output quality**   * **Text file created** * **Data accurate** * **Output as expected**   **(30%)** | | Program does not able to compile. | Program executed with runtime error but achieve partial program requirements. | Program executed error free with limitations to achieve minimum program requirements. | Program executed error free with correct output and achieve all program requirements. | Program executed error free with excellent output with appropriate validation. |  | 0.30 |  |
| **Total (50%)** | | | | | | | |  | | |
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| **Overall score (100%)** | | | | | | | |  | | |