

## Project (45%)

The Project is consisted of THREE (3) parts:

- Project Design (5%) → Submit by 10 June 2022, 11.55pm through eLeap
- Project Output (20%) → Submit by 12 June 2022, 11.55pm through eLeap
- Individual Assessment (20%) → Project Presentation in Week 13

### Project Description

Your group is to develop a Health Diary app (with Graphical User Interface using Java) that records the users' health information in their smartphone. For each entry, the users can perform the CRUD operations (create (add), read (view), update (edit) and delete) of the following:

- height (centimetre)
- weight (kilogram)
- body temperature (Celcius)
- Date
- Time
- User Profile (name, blood type, health history e.g. asthma, diabetes)

Additionally, the app should automatically compute the users' Body Mass Index (BMI) based on their height and weight. For each BMI value, the app should also display the status:

Status	BMI value
Underweight	below 18.5
Healthy	18.5-24.9
Overweight	25.0-29.9
Obese	30.00 and above

In the application, it is recommended to have at least 10 records over a few months. This is so that your app could produce a better BMI graph (see Figure 1 below for example) of the overall health profile. As database is not covered in this course, you have the option of using database (e.g. Java DB), .txt or array for your data management. Whichever method you use, it will not be assessed. However, hard coding data into the program is unacceptable as you won't be able to perform some of the functionalities below.



Figure 1: Sample BMI graph

The **Health Diary** app should have the following **basic** functionalities:

- i. **add** a new record
- ii. **view** an existing record
- iii. **edit** an existing record
- iv. **delete** an existing record

and the following **two more advanced** functionalities:

- v. **sort record** by **date**, **weight** and **BMI** in **ascending and descending** order
- vi. produce a **visualisation graph** that **display users' BMI**

The exact implementation of the features is based on your own **ideas and creativity**. Since the project is to build an app using **Java** Programming, we are **not** using **Android Studio**, **Unity** or **similar Android/iOS development platforms** for this. You can use Netbeans, Eclipse, Notepad++ or similar software for the project. The Health Diary app requires a **window display and resolution** that can **fit in a smartphone display resolution**, **not for actual installation in the mobile devices**. There is **NO NEED** for **user login and password**. Please refer to the rubric on how to score marks for this group exercise.

For **Project design**, you are to design your project using the **Unified Modelling Language (UML)**. Do refer to the rubrics for details of the design. Submit your project design document with the **assignment cover** in a **single .pdf** (named with your **group name**, e.g. **MOTS.pdf**) only by **10 June 2022, 11.55pm**. If the document is not in .pdf format, your group will have 0 mark.

For **Project output**, **zip your java files** and the **assignment cover document** and name the .zip file with your **group name** (e.g. **MOTS.zip**). Submit your .zip file by **12 June 2022, 11.55pm**. If the submission is not in .zip format, your group will have 0 mark.

**Project presentation** will be in **Week 13**. If you do not attend and present the project, you will have 0 mark. **Booking** of presentation slot will be available in **Week 12**.

**IMPORTANT NOTE:** Failure to follow the submission requirements, will result in penalty.

### Rubrics

#### Part A: Project Design (5%)

	0m	2m	3m
<b>Classes, Attributes and Methods [CLO1]</b>	Less than 3 classes <b>OR for each class</b> Less than 2 attributes and methods	at least 3 classes <b>AND for each class,</b> 3 attributes AND 3 methods	-
<b>Association (including inheritance, polymorphism) [CLO1]</b>	Incorrect association between classes, AND missing inheritance and polymorphism	Classes are associated corrected with incorrect inheritance relationship and no polymorphism	All classes are associated correctly, with correct inheritance and polymorphism and matches with the project output.

#### Part B: Project Output (20%)

	0m	2m	4m
<b>Number of implemented classes and interfaces [CLO2]</b>	Less than 2 classes <b>OR</b> Less than 2 interfaces (not GUI)	2 classes <b>AND</b> 2 interfaces (not GUI)	3 classes or more <b>AND</b> 3 interfaces (not GUI) or more
<b>Basic functionalities [CLO2]</b>	Less than 2 from (i.) to (iv.) are working correctly	At least 2 from (i.) to (iv.) are working correctly	All basic functionalities, i.e., (i.) to (iv.), are working correctly, and have at least 12 days records
<b>Sort function for date, weight and BMI criteria [CLO2]</b>	Does not exist / Is not working	Can sort records by one criterion (ascending AND descending order) e.g., Sort by date	Can sort records up to two criteria (ascending AND descending) e.g., Sort by date and BMI
<b>Data Visualisation [CLO2]</b>	Does not exist / is not working	Can only generate a static graph.	Can generate line graph with appropriate x and y-axis and title
<b>GUI menu &amp; Flow [CLO2]</b>	Confusing / only text-based menu	Simple GUI menu with acceptable flow of program	Well-designed GUI with app-like features and logical flow of program.

Part C: Individual Assessment (20%)

	0m	3m	5m	7m	10m
Contribution (CLO2)	No contribution to the project at all	Only code 1 class OR 1 interface (not GUI)	Code 1 class AND code 1 interface (not GUI)	Code more than 1 class AND/OR code more than 1 interface (not GUI)	Code more than 1 class AND code more than 1 interface (not GUI) AND test/debug other members' class/interface (not GUI)
	0m	1m	3m	5m	
Question & Answer (CLO 1)	Missing in action during Q & A session	Able to present but cannot answer the question	Able to present but partially answer the questions correctly	Able to present, answer the questions well and pinpoint in the code for the correct answer	
	0m	1m	3m	5m	
Peer Review (CLO 3)	No participation in project	Minimal contribution to coding and support members	Contribute some coding and support members	Fully contribute coding and support members	

All the best!