SCIT

School of Computing and Information Technology

ASSIGNMENT 2
CSIT111– PROGRAMMING FUNDAMENTAL
Session 3 – July to September 2021

INSTRUCTIONS TO CANDIDATES

1. The assignment consists of two parts. This is the part 1 of the assignment.
2. Part 2 is Moodle quiz. Should be done in class.
3. The name of the program must be **YourName_A2.**java (Only one file)
4. Total mark of Assignment 2 is 8 marks; 3 marks for Part II.

Objective

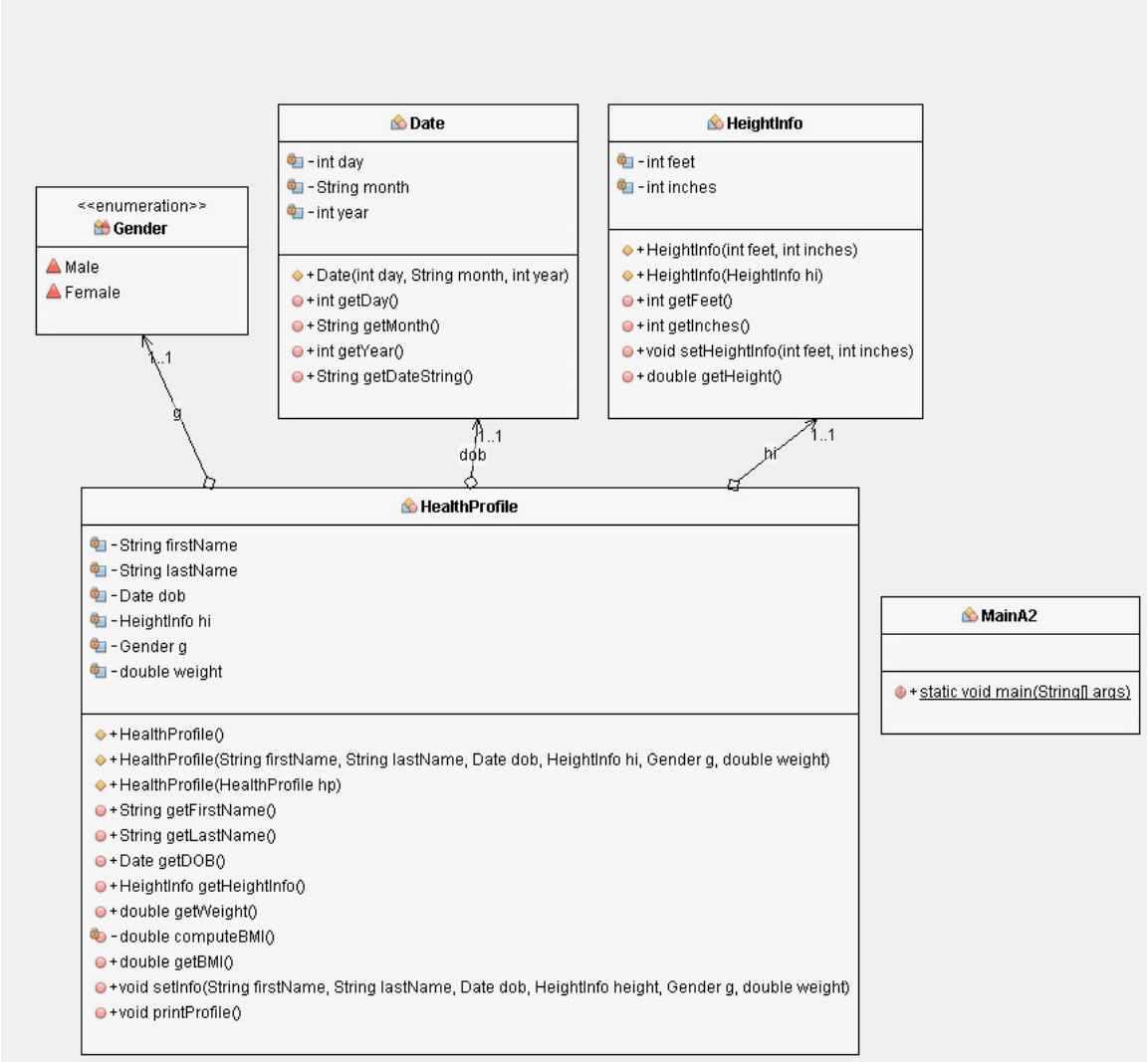
- Classes and Objects
- Strings
- Text Files

Task (5 marks)

A health-care issue that has been in news lately is the computerization of health records. The possibility is being approached cautiously because of sensitive privacy and security concerns.

Computerizing health records could make it easier for patients to share their health profiles and histories among various health-case professionals. This could improve the quality of health care, help avoid drug conflicts and erroneous drug prescriptions, reduce costs and, in emergencies, could save lives.

In this assignment, you will design a "starter" `HealthProfile` class for a person. Using the following UML diagram, probably, explain everything.



As can be seen from the above UML diagram, the HealthProfile class attributes should include the person first name (can be more than one words), last name (can also have more than one words), gender (simple enumeration data type, Male or Female), date of birth (an object of Date class, you need to design this class too), the height (an object of HeightInfo class) and the weight (in kg).

In the HeightInfo class, the two instance variables are feet and inches. You need to convert them to centimeters and use it in the design.

All classes should have constructors, with some appropriate parameters. You should also supply the accessor or mutator methods to access or to update the private instance variables.

In the `HealthProfile` class, you should have methods to compute and to return the BMI (body mass index, simple formula `weight` / `height`^{2}); and a print profile method.

You constructed a text file (using text editor, for example notepad) to store two patients' profiles. The sample format of this text file is:

Aik King
Wong
12 October 1923
5 6 Male 68.5 → **5 and 6 stands for 5 feet 6 inches, the weight is in kilo**
Mary Lucy
Tan Lim
12 December 1999
6 3 Female 70.8

In the main method, try to read the information from the above text file and display the following output:

Patient 1
Name: Aik King Wong
Date of birth: 12 October, 1923
Height: 5 feet 6 inches
Height (in cm): 167.64
Gender: Male
Weight: 68.5 kilo
Your BMI: 24.37

Patient 2
Name: Mary Lucy Tan Lim
Date of birth: 12 December, 1999
Height: 6 feet 3 inches
Height (in cm): 190.50
Gender: Female
Weight: 70.8 kilo
Your BMI: 19.51

IMPORTANT

The name of your program must be exactly `YourName_A2.java` and make sure that this file can be compiled and can be executed. Upload **ONLY** this file to Moodle**. ALL ZIP FILE SUBMISSION WILL BE REJECTED.** You don't have to upload the data file as you will demo to me.

No re-submission will be allowed after grading.

In the above file, remember to put down your name and also the following declaration (some similar contents):

```
// Tell me if it is your own work, and whether you have passed your
// program to your friends etc etc etc
```

// and willing to accept whatever penalty given to you.

- **Wrong file name -0.2 mark**
- **No declaration, no name etc -0.3 mark**
- **No demo -0.5**