

# LAB211 Assignment

Type:  
Code:  
LOC:  
Slot(s):

Short Assignment  
J1.S.P0019  
70  
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## Title

Check student's data format.

## Background

N/A

## Program Specifications

Create a program allows input:

- Student information includes: Student name, class name, the marks Math, Physical and Chemistry in the range from 0 to 10.

Display on screen the information:

- Student Type following the conditions:
  - A: mark > 7.5.
  - B:  $6 \leq \text{mark} \leq 7.5$ .
  - C:  $4 \leq \text{mark} < 6$ .
  - D: mark < 4.
- Student Type statistics by %.

### Function details:

**Function 1:** Display GUI And Input Data.

- Users run the program. The program prompts users to input Student data.
- When users stop inputting Student data, next **Function 2**.

**Function 2:** Perform function

- The program classifies students and gives student rank statistics by %.
- Display notify result of students together with statistic result and exit the program.

## Guidelines

**Student must implement the methods**

- createStudent
- averageStudent
- getPercentTypeStudent

**in startup code.**

### Suggestion:

Create a class Student contains the following properties:

- Student Name, Class, Math, Physical, Chemistry, Average, Type.

Create a class Mark Calculation, classify students, calculate Student Type statistics, and set the results on Student object.

Give the statistics:

A:? %

B:? %

C:? %

D:? %

**Function1:** Input student information

- Must create function: Student createStudent(String name, String classes, double maths, double chemistry, double physics)
  - Input:
    - name: Student name
    - classes: Class.
    - maths: Math mark.
    - chemistry: Chemistry mark.
    - physics: Physical mark.
  - Return:
    - Student object.

**Function 2:** Student classification.

- Write Function: List<Student> averageStudent(List<Student> students)
  - Input:
    - students: the list of students not classified yet.
  - Return: the list of students already classified.

**Function3:** Student Type Statistics.

- Must create function: HashMap<String, Double> getPercentTypeStudent(List<Student> students)
  - Input:
    - students: the list of students already classified.

Return: Student Type statistics by % by the key A,B,C, D.

**Expectation of User interface:**

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```
===== Management Student Program =====
Name:Nghia
Classes:FU1
Maths:11
Maths is less than equal ten
Maths:-1
Maths is greater than equal zero
Maths:
Maths is digit
Maths:10
Chemistry:11
Chemistry is less than equal ten
Chemistry:-1
Chemistry is greater than equal zero
Chemistry:
Chemistry is digit
Chemistry:10
Physics:11
Physics is less than equal ten
Physics:-1
Physics is greater than equal zero
Physics:
Physics is digit
Physics:10
Do you want to enter more student information?(Y/N):Y
Name:Nghia 2
Classes:FU1
Maths:10
Chemistry:10
Physics:10
Do you want to enter more student information?(Y/N):N
```

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```
----- Student1 Info -----
Name:Nghia
Classes:FU1
AVG:10.0
Type:A
----- Student2 Info -----
Name:Nghia 2
Classes:FU1
AVG:10.0
Type:A
-----Classification Info -----
A: 100.0%
B: 0.0%
C: 0.0%
D: 0.0%
```