FPT Education
FPT UNIVERSITY

CSD201 - PRACTICAL EXAM
SUMMER 2023
Duration: 85 minutes

Requirements:

+ Write the code on 1 file, named the file using your student ID: **student_code.java**

+ (1 point) Given Student.s information (id, fullname, yearOfBirth, average), id is the key. Let's define the Student class and Binary Search Tree (BST) class that contains the student objects. Inside BST class you should implement functions as following requirements. **Note**: You can write additional functions for code convenience.

1. (2 points) Write a function that insert a student to the AVL tree.
2. (1 point) Write a function to traverse the tree by Level Order Traversal using Queue.

(Hint: Using the isEmpty, add, remove methods of the Queue in Java to write function of question 2).

3. (1 point) Write a function to traverse the tree in descending order.
4. (1 point) Write a function that counts how many students whose **average** mark is less than five.
5. (2 points) Write a function that deletes students whose **age** is 19.
6. (2 points) Write main() function to invoke the functions above (0.4 point for each function).

Note: You should insert at least 10 students to the AVL tree.