SOFTENG 351 S1 C : Tutorial 9

Due Date: Sunday 31 May 2020 at 11:59pm
10 marks in total = 1% of the finalgrade

Understand the sample code (java or python) provided in the Files→Lab Exercises→samplecode.zip of canvas. Statement, ResultSet and the loop in fetching the query results in JAVA have been explained in Topic_10 in the lecture. For python, the idea is the same[1]. Please read the sample code to complete the following tasks on the COMPANY database of Assignment 2 (by importing the file of "COMPANY_DATA.sql" into the database).

1. Add to the relation of PROJECT a new attribute "Hours" whose type is float if there is no such an attribute. [3 marks]

2. Update the attribute "Hours" for the projects in PROJECT with the total number of Hours invested to the project by different employees **using one SQL statement**. [3 marks]

3. Scan over all projects, if the value of attribute "Hours" is smaller than 100, output, in a single line, PnameOfTheProject Short, otherwise, output, in a single line PnameOfTheProject Long. For example, the output could be

```
ProductX Short
ProductY Short
ProductZ Short
ProductA Short
Computerization Short
Reorganization Short
Newbenefits Short
OperatingSystem Long
DatabaseSystems Long
Middleware Long
InkjetPrinters Long
LaserPrinters Long
```

[4 marks]

Submit the code file to canvas.

Hint for Java users:

- List of methods of ResultSet can be found `https://docs.oracle.com/javase/7/docs/api/java/sql/ResultSet.html`.

- Even if the query result has only one line, .next() method should be called first before getting anything meaningful out of the ResultSet.

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[1]The setup of Python environment is to install python connector and then use SSH specified in Lab 8 to establish the channel. Note that, the the student DB is running mysql server 5.1, a very old version, you have to use python of version no more than 3.3 and python connector of version less than 1.2 `https://downloads.mysql.com/archives/c-python/`.