UNIVERSITY OF WESTMINSTER

INFORMATICS INSTITUTE OF TECHNOLOGY

Informatics Institute of Technology
Business School
Assignment Cover Sheet
DOC334

Course:	**Foundation Certificate Programme**
Unit Code and Description:	DOC334 Introduction to Programming in Python – P2
Module Leader:	Mr. Sudarshana Welihinda
Assignment Number:	1
Assignment Type:	**Individual Coursework (ICW)**
Issue Date:	**27th July 2022**
Hand – in – Date:	**21st August 2022**
Deadline:	**on or before 10:00:59 PM**
Qualifying mark:	**40%**

The department is **NOT RESPONSIBLE** if an assignment is lost. To cover this eventuality, you are advised to keep copies of the assignment OR to ensure that you have the means of re-creating it. You **will be given 0 marks** for not submitting the ICW.

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1. **Procedure for Handling Work:**
   1. Follow any specific instructions given on the assignment specification.

2. **Penalties for Late Hand In:**
   - If a student submits coursework late but within 24 hours of the specified deadline, the work will be marked but 10% of the overall marks obtained is deducted, to a minimum of the pass mark (40%).

- If students submit coursework later than 24 hours after the specified deadline, the work is **not** marked and will be given a mark of **zero** for the work in question.

3. Exceptional Factors Affecting your Performance:

- Students should submit ***written evidence to the Registrar's Department*** with a copy to the Module Leader of exceptional circumstances, which they consider having caused them to submit assessments late and for which they do not wish to subject for any penalty. The required documents must be handed over to the Registrar within four working days of the hand-in-date.
- Proper use of Python 3.x coding and language constructs is needed for a better program. You should follow good and proper programming techniques when completing this coursework.

*** Plagiarism ***

The strength of the university depends on academic and personal integrity. You must be honest and truthful. Plagiarism is the use of someone else's work, words, or ideas as if they were your own.

Plagiarism is a serious offense and will not be treated lightly.

Deliverables

The following should be submitted.

- A report including a description of the problem statement and the solution you have developed.
  - Make sure you have followed the good practices of report writing covered by [***DOC311***] Academic Skills for Higher Education module.
  - Use good word processing skills learned from [***DOC314***] Introduction to Information Technology module.
  - Use the techniques learned under [***DOC327***] Working with Data to handle database operations.
  - Screenshots of the program output in various states must be included.
  - All program codes **must be included** in your report as **text** (**NOT** image screen captures).
- Test cases used to test the programs and the results must be included in your submission.
- You need to provide the PDF version of your report and a ZIPPED folder which contains the full and working Python 3.x program
  - Save both (codes and PDF) to a single Zip folder named with your IIT student ID number.
  - For example, a zipped folder called **20219999** that carries PDF report and the final full Python program.

- All codes must be written in Python 3.x version
- The completed coursework must be submitted to the LMS via the given link. **DO NOT** email it to your lecturers.
- A viva session may be arranged individually to test your knowledge about the ICW you submitted or to clarify doubts about your ICW submission. This session may happen over Zoom with ***audio and video*** support.

Assignment Brief

You are to create a **console Python 3.x program** which will allow users to demonstrate a small program for a classroom attendance.

Scenario

A small classroom keeps track of student attendance with 2 tables in a database. One table keep student information such as student no, first name, last name, etc. while the second table keep track of the student no (which refers student number from the first table), a date and the attendance of the students.

Design and develop fully transactional console-based application which has the following functionalities.

1. Program operator must be able to key in new student details. Most basic information must be student number, first name and last name. you are free to insert any relevant information for this entity. Minimum 3 and maximum of 5 students can be in the table.

2. Program operator must be able to insert a date and attendance for that date. Operator must type the date (this can be recorded as a string if you like). The attendance is recorded based on the students available in the system. For example, if the first table has 3 students, program will ask attendance of 3 students. If there are 5 students, program will ask attendance of 5 students.

3. Program operator must be able to insert, update, delete students from the first table.

4. Program operator must be able to view all student details, view all attendance details, and view only attendance of a selected student (Program operator is prompted to type the student number for this operation).

Your Task

You are to create a Python 3.x program which mimics the above requirements. Your program **must** run in the console. GUI base program will result **ZERO** marks. You can decide how the program menu and the console interface will look like, based on the above requirements. You must clearly state your assumptions if you have any.

Tasks to Complete

1. You must use proper Python 3.x program constructs such as packages, modules, functions, variables, data structures, etc. to develop this program.
2. The user must be able to do requested tasks
3. Records must be stored by using a database
4. In your database, username **must be** "root" with **no passwords** and the server **must be** "localhost"
5. You should also provide means to import/restore your current database for marking purposes. Failing to do this will result **lower marks or no marks** for that component.
6. You can use external packages which will help you to develop the program. ***However***,
    - Such package uses must be **explained** in the report. For example, purpose of using it and which parts were implemented with it.
    - Proper instructions **must** be given to do the installation of such packages.
    - Links where you install/download the packages **must** be provided in the report
    - Failing to do above tasks will result **lower marks or zero marks** for those components
    - You **CANNOT** use ready-made software packages specifically made for this! Such attempts will get ***zero marks*** for this whole ICW.
7. You are to develop a **console-based application with a suitable menu system** to complete this task.

*** This is relatively a small ICW and you should be able to complete this within 2 to 3 weeks. However, 3 extra days are included to the deadline for your convenience. The submission links will be open from 14th August onwards ***

End of Coursework