#EIMEAR BUTLER G00364802

#QUESTION 4.2 for Applied DataBases Module May 2019

**ANSWER:**

The database is not optimal.

In order to improve it, I would recommend to firstly split it into 2 tables with a foreign key of moduleID. In this way a left join or inner join could be used to connect the modules with the students. Repetition will reduce and one change to table 2 will then be effective for all relevant students.

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| --- | --- | --- | --- |
| **Table 1** | | **Table 2** | |
| **Student ID** | Primary Key, Sequential/unique | **Module ID** | Primary Key & Foreign Key matching with Module ID in Table 1  Sequential/unique |
| **Dob** | Date Format | **moduleName** | Varchar(x number of characters) |
| **Module ID** | Foreign Key matching with Module ID in Table 2 |  |  |

I would ensure that the StudentID and ModuleID reference numbers are at least sequential to ensure no duplicate Primary Keys are formed. In this case it appears this may be the case as each student has a unique ID, as does each module.

I would also recommend that the surname of the student is included in table 1 to further reduce the risk of confusion.