University of Roehampton London

CMP020L012A	Data Analytics	2022/23

Exercise Data Management in RDBMS using SQL
Week- 3

Answer the following Questions

1. Assume the following to be the structure of database tables "Modules" and "Teachers" for an educational institution:

Table: Modules Properties

Column name	Data type	Constraints
Code	Varchar(10)	Primary key
Title	Varchar(40)	not null
Prerequisites	Varchar(15)	null
Credit Hour	Varchar(7)	Not null

Table: Modules Values

Code	Title	Prerequisites	Credit Hour
A101	Mathematics	Null	30
A102	Programming Language	A101	
B109	Network	A101	20
B108	Databases	A101	20
B120	Data Science	B108	30

Table: Teachers Properties

Column name	Data type	Constraints
Teacher_ID	VARCHAR	Primary key
Code	Varchar(10)	Foreign Key
Designation	Varchar(20)	null

Table: Teachers Values

Teacher_ID	Code	Designation
T_201	B109	Lecturer
T_203	A102	Lecturer
T_205	A101	Lecturer
T_204	B120	Senior Lecturer
T_200	B108	Lecturer
T_209	B109	Senior Lecturer

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Now, write down the appropriate SQL statements to perform the following activities:

a) Create “Modules” and “Teachers” table using all the necessary constraint(s) with all the properties given above.

b) Insert a new module in the existing “Modules” table as below:

C_120	Data Engineering	B120	30

c) Find total number of modules which have got titles starting with the letter “D”.

d) Update the designation of the teacher as “Senior Lecturer” whose ID is T_203.

e) Find the details of the Modules with no prerequisite(s).

f) Find the details of the modules where the prerequisite of the modules are not null or the credit hours are exactly 20.

g) Find the module/modules has got credit hour less than 20.

h) How can you add another attribute/column in the Teachers table to store email addresses of the teachers.

i) The teacher with ID: T_205 doesn’t work in this institution anymore. How can you remove the details of this teacher from the table?

j) Find the details of the teachers who are not Lecturers.