

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			Table: Modules Values			
Column name	Data type	Constraints	Code	Title	Prerequisites	Credit Hour
Code	Varchar(10)	Primary key	A101	Mathematics	Null	30
Title	Varchar(40)	not null	A102	Programming Language	A101	30
Prerequisites	Varchar(15)	null	B109	Network	A101	20
Credit Hour	Varchar(7)	not null	B108	Databases	A101	20
			B120	Data Science	B108	30

Table: Teachers Properties			Table: Teachers Values		
Column name	Data type	Constraints	Teacher_ID	Code	Designation
Teacher_ID	VARCHAR	Primary key	T_201	B109	Lecturer
Code	Varchar(10)	Foreign Key	T_203	A102	Lecturer
Designation	Varchar(20)	null	T_205	A101	Lecturer
			T_204	B120	Senior Lecturer
			T_200	B108	Lecturer
			T_209	B109	Senior Lecturer

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.