`Tutorial / Practical 03 – SQL DDL

Learning Outcomes

Able to create tables in SQL Server using

- CREATE TYPE
- CREATE RULE
- CREATE TABLE, ALTER TABLE, DROP TABLE
- CREATE INDEX

A. Answer the following questions

1. Briefly describe the purpose of a table index.

2. State, with reason, whether it is recommended to create index on many table columns

3. Briefly explain how you would choose on which columns to implement an index

B. In SQL Server

1. Create a database named 'Dreamhome'.

2. Write and execute SQL DDL statements to create the following tables

Table	Attribute	Data Type	Constraint
Branch	branchNo	CHAR(4)	Primary Key, Starts with 'B'
	street	VARCHAR(20)	
	city	VARCHAR(15)	
	postcode	VARCHAR(8)	

Table	Attribute	Data Type	Constraint
Staff	staffNo	VARCHAR(4)	Primary Key, Starts with 'P'
	fname	VARCHAR(25)	
	lname	VARCHAR(20)	
	position	VARCHAR(15)	Possible Values: 'Manager', 'Assistant', 'Supervisor'
	sex	CHAR(1)	Possible Values: 'M', 'F'
	DOB	DATE	
	salary	INTEGER	Should be > 7000
	branchNo	CHAR(4)	Foreign Key references Branch, Starts with 'B'

Table	Attribute	Data Type	Constraint
Client	clientNo	CHAR(4)	Primary Key, Starts with 'CR'
	fname	VARCHAR(25)	
	lname	VARCHAR(20)	
	phone	VARCHAR(20)	
	prefType	VARCHAR(5)	Possible Values: 'House', 'Flat'
	maxRent	INTEGER	

Table	Attribute	Data Type	Constraint
PropertyForRent	propertyNo	VARCHAR(4)	Primary Key, Starts with 'P'
	street	VARCHAR(20)	
	city	VARCHAR(15)	
	postcode	VARCHAR(8)	
	ptype	VARCHAR(5)	Possible Values: 'House', 'Flat'
	rooms	SMALLINT	Should be > 0 and < 10
	rent	INTEGER	Should be > 0 and < 1000
	staffNo	VARCHAR(4)	Foreign Key references Staff, Starts with 'S'
	branchNo	CHAR(4)	Foreign Key references Branch, Starts with 'B'

Table	Attribute	Data Type	Constraint
Private Owner	ownerNo	CHAR(4)	Primary Key, Starts with 'CO'
	fname	VARCHAR(25)	
	lname	VARCHAR(20)	
	address	VARCHAR(40)	
	telNo	VARCHAR(20)	

Table	Attribute	Data Type	Constraint
Viewing	clientNo	CHAR(4)	Primary Key Foreign Key references Client, Starts with 'CR'
	propertyNo	VARCHAR(4)	Primary Key Foreign Key references PropertyForRent, Starts with 'P'
	viewDate	DATE	
	comment	VARCHAR(50)	

Table	Attribute	Data Type	Constraint
Registration	clientNo	CHAR(4)	Primary Key Foreign Key references Client, Starts with 'CR'
	branchNo	CHAR(4)	Foreign Key references Branch, Starts with 'B'
	staffNo	VARCHAR(4)	Foreign Key references Staff, Starts with 'S'
	dateJoined	DATE	

3. Write and execute SQL DDL statements to modify the table PropertyForRent to add a new column called **ownerNo** as follows :

Attribute	Data Type	Constraint
ownerNo	CHAR(4)	Foreign Key references PrivateOwner, Starts with 'CO'

4. Write and execute SQL DDL statements to create an index on the column city of the table PropertyForRent