SQL Practical Assignment 1
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Division: A

Question: 1. Create a database and two tables in it.
Query:
    CREATE DATABASE InvestmentDB;
    USE InvestmentDB;
Output:

Query:
    CREATE TABLE Emp(
        emp_id   INT,
        emp_name   VARCHAR(10),
        emp_address   VARCHAR(30),
        bdate   DATE
    );
    DESC Emp;
Output:

Query:
    CREATE TABLE Investor(
        inv_name VARCHAR(20),
        inv_no   INT,
        inv_date DATE,
        inv_amt   INT
    );
    DESC Investor;

Output:

Field	Type	Null	Key	Default	Extra
inv_name	varchar(20)	YES		NULL	
inv_no	int(11)	YES		NULL	
inv_date	date	YES		NULL	
inv_amt	int(11)	YES		NULL	

Question: 2. Add a Column 'Salary' in to an Emp table.

Query:
        ALTER TABLE Emp ADD emp_salary INT;
        DESC Emp;
Output:

Field	Type	Null	Key	Default	Extra
emp_id	int(11)	YES		NULL	
emp_name	varchar(10)	YES		NULL	
emp_address	varchar(30)	YES		NULL	
bdate	date	YES		NULL	
emp_salary	int(11)	YES		NULL	

Question: 3. Add a column 'Age' in to an investor table.

Query:
        ALTER TABLE Investor ADD inv_age INT;
        DESC Investor;
Output:

Field	Type	Null	Key	Default	Extra
inv_name	varchar(20)	YES		NULL	
inv_no	int(11)	YES		NULL	
inv_date	date	YES		NULL	
inv_amt	int(11)	YES		NULL	
inv_age	int(11)	YES		NULL	

Question: 4. Change the datatype of inv_no from int to big int in Investor table
Query:
        ALTER TABLE Investor MODIFY COLUMN inv_no BIGINT;
        DESC Investor;

Output:

Field	Type	Null	Key	Default	Extra
inv_name	varchar(20)	YES		NULL	
inv_no	bigint(20)	YES		NULL	
inv_date	date	YES		NULL	
inv_amt	int(11)	YES		NULL	
inv_age	int(11)	YES		NULL	

Question: 5. Change the data type of any one column in an existing table.

Query:
    ALTER TABLE Emp MODIFY COLUMN emp_name TEXT;
    DESC Emp;

Output:

Field	Type	Null	Key	Default	Extra
emp_id	int(11)	YES		NULL	
emp_name	text	YES		NULL	
emp_address	varchar(30)	YES		NULL	
bdate	date	YES		NULL	
emp_salary	int(11)	YES		NULL	

Question: 6. Change the name of column/field Emp_id to E_id.

Query:
    ALTER TABLE Emp CHANGE emp_id e_id INT;
    DESC Emp;

Output:

Field	Type	Null	Key	Default	Extra
e_id	int(11)	YES		NULL	
emp_name	text	YES		NULL	
emp_address	varchar(30)	YES		NULL	
bdate	date	YES		NULL	
emp_salary	int(11)	YES		NULL	

Question: 7. Drop a column 'Age' from an Investor table.

Query:
    ALTER TABLE Investor DROP COLUMN inv_age;
    DESC Investor;

Output:

Field	Type	Null	Key	Default	Extra
inv_name	varchar(20)	YES		NULL	
inv_no	bigint(20)	YES		NULL	
inv_date	date	YES		NULL	
inv_amt	int(11)	YES		NULL	

Question: 8. Create a Primary key constraint between two tables.
Query:
    ALTER TABLE Emp ADD PRIMARY KEY (e_id);
    DESC Emp;

Output:

Field	Type	Null	Key	Default	Extra
e_id	int(11)	NO	PRI	NULL	
emp_name	text	YES		NULL	
emp_address	varchar(30)	YES		NULL	
bdate	date	YES		NULL	
emp_salary	int(11)	YES		NULL	

Query:

    ALTER TABLE Investor ADD PRIMARY KEY (inv_no);
    DESC Investor;

Output:

Field	Type	Null	Key	Default	Extra
inv_name	varchar(20)	YES		NULL	
inv_no	bigint(20)	NO	PRI	NULL	
inv_date	date	YES		NULL	
inv_amt	int(11)	YES		NULL	

Question: 9. Create a foreign key constraint between two tables.
Query:

    ALTER TABLE Emp ADD COLUMN inv_no BIGINT;
    ALTER TABLE Emp ADD FOREIGN KEY (inv_no) REFERENCES Investor(inv_no);
    DESC Emp;

Output:

Field	Type	Null	Key	Default	Extra
e_id	int(11)	NO	PRI	NULL	
emp_name	text	YES		NULL	
emp_address	varchar(30)	YES		NULL	
bdate	date	YES		NULL	
emp_salary	int(11)	YES		NULL	
inv_no	bigint(20)	YES	MUL	NULL	

Question: 10. Drop a foreign key constraint between two tables.
Query:

    ALTER TABLE Emp DROP FOREIGN KEY emp_ibfk_1;
    ALTER TABLE Emp DROP COLUMN inv_no;
    DESC Emp;

Output:

Field	Type	Null	Key	Default	Extra
e_id	int(11)	NO	PRI	NULL	
emp_name	text	YES		NULL	
emp_address	varchar(30)	YES		NULL	
bdate	date	YES		NULL	
emp_salary	int(11)	YES		NULL	

Question: 11. Create a Not Null constraint to emp_name and Check constraint to age into an Emp table.
Query:

    ALTER TABLE Emp MODIFY emp_name TEXT NOT NULL;
    DESC Emp;

Output:

Field	Type	Null	Key	Default	Extra
e_id	int(11)	NO	PRI	NULL	
emp_name	text	NO		NULL	
emp_address	varchar(30)	YES		NULL	
bdate	date	YES		NULL	
emp_salary	int(11)	YES		NULL	

Query:

    ALTER TABLE Emp ADD COLUMN emp_age INT;
    ALTER TABLE Emp ADD CONSTRAINT CHECK(emp_age > 18);
    SHOW CREATE TABLE Emp;

Output:

LL, `emp_age` int(11) DEFAULT NULL, PRIMARY KEY (`e_id`), CONSTRAINT `CONSTRAINT_1` CHECK (`emp_age` > 18)) ENGIN...

Question: 12. Create a Unique key constraint between two tables.
Query:

    ALTER TABLE Emp ADD CONSTRAINT UNIQUE(emp_name);
    DESC Emp;

Output:

Field	Type	Null	Key	Default	Extra
e_id	int(11)	NO	PRI	NULL	
emp_name	text	NO	UNI	NULL	
emp_address	varchar(30)	YES		NULL	
bdate	date	YES		NULL	
emp_salary	int(11)	YES		NULL	
emp_age	int(11)	YES		NULL	

Query:

    ALTER TABLE Investor ADD CONSTRAINT UNIQUE(inv_name);
    DESC Investor;

Output:

Field	Type	Null	Key	Default	Extra
inv_name	varchar(20)	YES	UNI	NULL	
inv_no	bigint(20)	NO	PRI	NULL	
inv_date	date	YES		NULL	
inv_amt	int(11)	YES		NULL	

Question: 13. Drop a Unique key constraint between two tables.
Query:

    ALTER TABLE Emp DROP INDEX emp_name;

    DESC Emp;

Output:

Field	Type	Null	Key	Default	Extra
e_id	int(11)	NO	PRI	NULL	
emp_name	text	NO		NULL	
emp_address	varchar(30)	YES		NULL	
bdate	date	YES		NULL	
emp_salary	int(11)	YES		NULL	
emp_age	int(11)	YES		NULL	

Question: 14. Rename a table.
Query:

    RENAME TABLE Emp TO Employee;

    DESC Employee;

Output:

	70	12:55:07	RENAME TABLE Emp TO Employee
	71	12:55:09	DESC Employee

Question: 15. Drop anyone a table.
Query:

    DROP TABLE Employee;

    DESC Employee;

Output:

	72	12:56:53	DROP TABLE Employee	0 row(s) affected
	73	12:56:54	DESC Employee	Error Code: 1146. Table 'investmentdb.employee' doesn't exist