1)

CREATE TABLE EMP (

emp\_id INT PRIMARY KEY,

first\_name VARCHAR(255) NOT NULL,

last\_name VARCHAR(255),

email VARCHAR(255) NOT NULL,

phone\_number VARCHAR(15) NOT NULL,

dept\_id INT,

address\_id INT,

blood\_group VARCHAR(5),

dob DATE,

doj DATE,

dot DATE,

created\_ts TIMESTAMP,

reference VARCHAR(255),

role VARCHAR(255),

salary FLOAT,

band INT,

reports\_to INT,

FOREIGN KEY (dept\_id) REFERENCES DEPARTMENT(department\_id),

FOREIGN KEY(address\_id) REFERENCES ADDRESS(add\_id)

);

2)

CREATE TABLE ADDRESS (

add\_id INT PRIMARY KEY,

country VARCHAR(255),

state VARCHAR(255),

city VARCHAR(255),

street VARCHAR(255),

zipcode INT,

pre\_known\_add JSON,

created\_ts TIMESTAMP,

last\_updated\_ts TIMESTAMP

);

3)

CREATE TABLE DEPARTMENT (

department\_id INT PRIMARY KEY,

department\_name VARCHAR(255),

department\_code CHAR(4) NOT NULL,

address\_id INT,

dept\_head\_id INT NOT NULL,

FOREIGN KEY (address\_id) REFERENCES ADDRESS(add\_id)

);

4)

INSERT INTO ADDRESS (add\_id, country, state, city, street, zipcode, pre\_known\_add, created\_ts, last\_updated\_ts)

VALUES

(1, 'USA', 'California', 'San Jose', '1234 Elm St', 95123, '{"known": true}', CURRENT\_TIMESTAMP, CURRENT\_TIMESTAMP);

5)

INSERT INTO DEPARTMENT (department\_id, department\_name, department\_code, address\_id, dept\_head\_id)

VALUES

(1, 'Software Development', 'SD01', 1, 101);

6)

INSERT INTO EMP (emp\_id, first\_name, last\_name, email, phone\_number, dept\_id, address\_id, blood\_group, dob, doj, dot, created\_ts, reference, role, salary, band, reports\_to)

VALUES

(1, 'John', 'Doe', 'john.doe@example.com', '123-456-7890', 1, 1, 'O+', '1990-01-01', '2020-02-01', NULL, CURRENT\_TIMESTAMP, 'Ref001', 'Software Engineer', 80000, 3, NULL);

7)

-- Update EMP Table:

UPDATE EMP

SET salary = 85000

WHERE emp\_id = 1;

-- Update ADDRESS Table:

UPDATE ADDRESS

SET city = 'Santa Clara'

WHERE add\_id = 1;

-- Update DEPARTMENT Table:

UPDATE DEPARTMENT

SET department\_name = 'Cloud Development'

WHERE department\_id = 1;

8)

-- Delete from EMP table:

DELETE FROM EMP

WHERE emp\_id = 1;

-- Delete from ADDRESS table:

DELETE FROM ADDRESS

WHERE add\_id = 1;

-- Delete from DEPARTMENT table:

DELETE FROM DEPARTMENT

WHERE department\_id = 1;

9)

ALTER TABLE EMP

DROP COLUMN reports\_to;

10)

ALTER TABLE DEPARTMENT

DROP COLUMN dept\_head\_id;

11)

ALTER TABLE EMP

MODIFY COLUMN band VARCHAR(255);

12)

SELECT emp\_id,

TIMESTAMPDIFF(YEAR, dob, CURDATE()) AS age

FROM EMP;

13)

SELECT CURRENT\_DATE AS today\_date;

14)

SELECT emp\_id,

TIMESTAMPDIFF(YEAR, doj, CURDATE()) AS experience\_years

FROM EMP;

15)

ALTER TABLE EMP

ADD COLUMN comment TEXT;

16)

ALTER TABLE DEPARTMENT

ADD COLUMN comment TEXT;

17)

ALTER TABLE ADDRESS

ADD COLUMN comment TEXT;

18)

TRUNCATE EMP;

TRUNCATE DEPARTMENT;

TRUNCATE ADDRESS;

19)

CREATE VIEW EMP\_DEPT\_ADDRESS AS

SELECT E.emp\_id,

IF(E.last\_name IS NOT NULL, CONCAT(E.first\_name, ' ', E.last\_name), E.first\_name) AS name,

CONCAT(A.street, ', ', A.city, ', ', A.state, ', ', A.country, ' ', A.zipcode) AS address,

D.department\_name AS dept\_name,

E.salary AS salary

FROM EMP E

JOIN DEPARTMENT D ON E.dept\_id = D.department\_id

JOIN ADDRESS A ON E.address\_id = A.add\_id;

20)

DROP TABLE IF EXISTS EMP;

DROP TABLE IF EXISTS DEPARTMENT;

DROP TABLE IF EXISTS ADDRESS;