1.

First, create a new database. Assuming you are using PostgreSQL:

CREATE DATABASE university\_hr;

Connect to the university\_hr database:

\c university\_hr;

2.

Create the FACULTY and STAFF tables with the appropriate constraints:

CREATE TABLE FACULTY (

facultyId VARCHAR(6) PRIMARY KEY,

facultyName VARCHAR(15) NOT NULL,

NoOfStaff INTEGER

);

CREATE TABLE STAFF (

staffId VARCHAR(6) PRIMARY KEY,

staffName VARCHAR(15),

staffDOB DATE,

staffFaculty VARCHAR(6),

FOREIGN KEY (staffFaculty) REFERENCES FACULTY(facultyId)

);

3.

Insert the data into the FACULTY table first, because the STAFF table has a foreign key constraint that references the FACULTY table.

INSERT INTO FACULTY (facultyId, facultyName, NoOfStaff) VALUES

('C001', 'Computing', 120),

('E002', 'Engineering', 76),

('M002', 'Mathematics', 56),

('B001', 'Business', 89);

Then insert the data into the STAFF table:

INSERT INTO STAFF (staffId, staffName, staffDOB, staffFaculty) VALUES

('AB9872', 'Mark White', '1978-01-01', 'M002'),

('DL2314', 'Jas Singh', '1982-03-14', 'M002'),

('AF4512', 'Alison Green', '1998-12-23', 'C001'),

('BK2134', 'Kieran West', '1992-01-16', 'B001'),

('FG3124', 'Lucy Liu', '1997-08-03', 'E002');

4.

a.

SELECT \* FROM STAFF;

b.

SELECT facultyName

FROM FACULTY

WHERE NoOfStaff < 75;

c.

SELECT \*

FROM STAFF

WHERE staffDOB BETWEEN '1980-01-01' AND '1989-12-31';

d.

SELECT

staffId AS "ID",

staffName AS "Name",

staffDOB AS "Date of Birth",

staffFaculty AS "Faculty ID"

FROM STAFF

ORDER BY staffName DESC;

e.

UPDATE STAFF

SET staffFaculty = 'E002'

WHERE staffId = 'AF4512';

f.

DELETE FROM STAFF

WHERE staffId = 'BK2134';

6.

a

SELECT 28964 \* 1.185 AS increased\_value;

b

SELECT first\_name, last\_name FROM EMPLOYEE;

c

SELECT DISTINCT product\_type\_cd FROM PRODUCT;

d

SELECT DISTINCT product\_name

FROM PRODUCT

WHERE product\_type\_cd = 'Loan';

e

SELECT emp\_id, first\_name, last\_name

FROM EMPLOYEE

WHERE first\_name LIKE 'S%';

f

SELECT emp\_id, first\_name, last\_name

FROM EMPLOYEE

WHERE (first\_name LIKE 'S%' OR first\_name LIKE 'T%')

AND dept\_id = (SELECT dept\_id FROM DEPARTMENT WHERE name = 'Operations');

g

SELECT emp\_id, first\_name, last\_name

FROM EMPLOYEE

WHERE first\_name IN ('Susan', 'Helen', 'Paula');

h

SELECT \*

FROM EMPLOYEE

WHERE start\_date BETWEEN '2001-01-01' AND '2002-12-31';

i

SELECT \*

FROM CUSTOMER

WHERE fed\_id ~ '^\d{3}-\d{2}-\d{4}$';

j

SELECT product\_type\_cd, product\_name

FROM PRODUCT

ORDER BY product\_type\_cd ASC, product\_name DESC;

k

SELECT \*

FROM EMPLOYEE

WHERE title = 'Teller'

ORDER BY start\_date ASC;

l

UPDATE ACCOUNT

SET avail\_balance = avail\_balance \* 1.02,

pending\_balance = pending\_balance \* 1.02

WHERE cust\_id = 1

RETURNING account\_id, product\_cd, avail\_balance, pending\_balance;

m

DELETE FROM ACC\_TRANSACTION

WHERE txn\_date = '2003-07-30'

RETURNING \*;

n

SELECT account\_id, cust\_id, avail\_balance

FROM ACCOUNT

WHERE avail\_balance > 10000

ORDER BY avail\_balance DESC;

o

SELECT DISTINCT city

FROM BRANCH

WHERE state = 'NH'

ORDER BY city ASC;

p

UPDATE INDIVIDUAL

SET last\_name = 'Brown'

WHERE first\_name = 'Susan' AND last\_name = 'Tingley';

q

SELECT \*

FROM INDIVIDUAL

WHERE birth\_date < '1965-01-01';

r

UPDATE EMPLOYEE

SET start\_date = '2019-11-01'

WHERE first\_name = 'Thomas' AND last\_name = 'Ziegler';

s

SELECT \*

FROM ACCOUNT

WHERE product\_cd = 'SAV'

ORDER BY avail\_balance DESC;