Q1)

CREATE TABLE employee (

ID INT PRIMARY KEY,

person\_name VARCHAR(50),

street VARCHAR(50),

city VARCHAR(50)

);

CREATE TABLE works (

ID INT,

company\_name VARCHAR(50),

salary INT,

FOREIGN KEY (ID) REFERENCES employee(ID),

FOREIGN KEY (company\_name) REFERENCES company(company\_name)

);

CREATE TABLE company (

company\_name VARCHAR(50) PRIMARY KEY,

city VARCHAR(50)

);

CREATE TABLE manages (

ID INT,

manager\_id INT,

FOREIGN KEY (ID) REFERENCES employee(ID),

FOREIGN KEY (manager\_id) REFERENCES employee(ID)

);

Q2)

A)

SELECT DISTINCT d.ID

FROM depositor d

LEFT JOIN borrower b ON d.ID = b.ID

WHERE b.ID IS NULL;

B)

SELECT c1.ID

FROM customer c1

JOIN customer c2

ON c1.customer\_street = c2.customer\_street

AND c1.customer\_city = c2.customer\_city

WHERE c2.ID = '12345'

AND c1.ID <> '12345';

C)

SELECT DISTINCT b.branch\_name

FROM branch b

JOIN account a ON b.branch\_name = a.branch\_name

JOIN depositor d ON a.account\_number = d.account\_number

JOIN customer c ON d.ID = c.ID

WHERE c.customer\_city = 'Harrison';

Q3)

A)

SELECT

day,

qty,

SUM(qty) OVER (ORDER BY day) AS cumQty

FROM demand;

B)

SELECT

product,

day,

qty,

ROW\_NUMBER() OVER (PARTITION BY product ORDER BY qty ASC) AS RN

FROM demand

WHERE ROW\_NUMBER() OVER (PARTITION BY product ORDER BY qty ASC) <= 2;

WITH RankedData AS (

SELECT

product,

day,

qty,

ROW\_NUMBER() OVER (PARTITION BY product ORDER BY qty ASC) AS RN

FROM demand

)

SELECT

product,

day,

qty,

RN

FROM RankedData

WHERE RN <= 2;