```sql
INSERT INTO EMPLOYEE(FNAME, MINIT, LNAME, SSN, BDATE, ADDRESS, SEX, SALARY)
VALUES
("JOHN","B","SMITH",123456789,"1965-01-09","731 FONDREN,HOUSTON,TX","M",30000),
("FRANKLIN","T","WONG",333445555,"1955-12-08","638 VOSS,HOUSTON,TX","M",40000),
("ALICE","J","ZELAYA",999887777,"1968-01-19","3321 CASTLE,SPRING,TX","F",25000),
("JENNIFER","S","WALLACE",987654321,"1941-06-20","291 BERRY,BELLAIRE,TX","F",43000),
("RAMESH","K","NARAYAN",666884444,"1962-09-15","975 FIRE OAK,HUMBLE,TX","M",39000),
("JOYCE","A","ENGLISH",453453453,"1972-07-31","5631 RICE,HOUSTON,TX","F",25000),
("AHMAD","V","JABBAR",987987987,"1969-03-29","980 DALLAS,HOUSTON,TX","M",25000),
("JAMES","E","BORG",888665555,"1937-11-10","450 STONE,HOUSTON,TX","M",55000);
```

Result Grid

SSN
123456789.0
666884444.0
333445555.0
987654321.0
987987987.0
999887777.0

ALTER TABLE EMPLOYEE DROP COLUMN EXPENCES;

ALTER TABLE EMPLOYEE ADD CONSTRAINT FOREIGN KEY(DNO) REFERENCES DEPARTMENT(DNO);

Result Grid — Filter Rows:

DNO	NO_OF_EMPLOYEES	AVG(SALARY)
NULL	1	25000.0000
1	1	55000.0000
4	4	24500.0000
5	2	34500.0000

Result Grid — Filter Rows: — Export:

FNAME	MINIT	LNAME	ADDRESS
JOHN	B	SMITH	731 FONDREN,HOUSTON,TX
RAMESH	K	NARAYAN	975 FIRE OAK,HUMBLE,TX

Result Grid — Filter Rows: — Export:

Total salary	Maximum salary	Minimum salary	Average salary
247000	55000	5000	30875.0000

Result Grid — Filter Rows:

FNAME	MINIT	LNAME

Result Grid — Filter Rows:

FNAME	MINIT	LNAME	PNAME
JAMES	E	BORG	REORGANIZATION
JENNIFER	S	WALLACE	REORGANIZATION
AHMAD	V	JABBAR	NEW BENEFITS
ALICE	J	ZELAYA	COMPUTERIZATION
ALICE	J	ZELAYA	NEW BENEFITS
FRANKLIN	T	WONG	COMPUTERIZATION
JENNIFER	S	WALLACE	NEW BENEFITS
FRANKLIN	T	WONG	PRODUCTY
FRANKLIN	T	WONG	PRODUCTZ
JOHN	B	SMITH	PRODUCTX
JOHN	B	SMITH	PRODUCTY
JOYCE	A	ENGLISH	PRODUCTX
JOYCE	A	ENGLISH	PRODUCTY
RAMESH	K	NARAYAN	PRODUCTZ

Result Grid — Filter Rows:

MODEL	TOTAL_CARS
Walgon R	2
Alto	3

Result Grid — Filter Rows: — Edit:

BOOK_NO	BOOK_NAME	AUTHOR
1	Atomic Habits	James Clear
2	The Alchemist	Paulo Coelho
3	Think and Grow Rich	Napoleon Hill
4	The Power of Now	Eckhart Tolle
5	Rich Dad Poor Dad	Robert T. Kiyosaki
6	To Kill a Mockingbird	Harper Lee
7	The Catcher in the Rye	J.D. Salinger
8	Fundamentals of DBMS	Elmarsi Navarthe
9	The Great Gatsby	F. Scott Fitzgerald
10	Pride and Prejudice	Jane Austen
NULL	NULL	NULL

Result Grid — Filter Rows: — Export: — Wrap Cell Cor

PNO	DNO	LNAME	ADDRESS	BDATE
10	4	WALLACE	291 BERRY,BELLAIRE,TX	1941-06-20 00:00:00
30	4	WALLACE	291 BERRY,BELLAIRE,TX	1941-06-20 00:00:00

Result Grid

MNO_NO	SNO
1	1001
2	1002
3	1003
4	1004
5	1005
6	1006
7	1007
8	1008
9	1009
10	1010
NULL	NULL

Result Grid — Fil

STUD_NO	NAME
1001	Alice
1002	Bob
1003	Charlie
1004	David
1005	Eve
1006	Frank
1007	Grace
1008	Henry
1009	Isla
1010	Jack
NULL	NULL

Result Grid — Filter Rows:

ISS_NO	ISS_DATE	MNO	BOOK_NO
1	2024-04-20	1	1
2	2024-04-21	2	2
3	2024-04-22	3	3
4	2024-04-23	4	4
5	2024-04-24	5	5
6	2024-04-25	6	6
7	2024-04-26	7	7
8	2024-04-27	8	8
9	2024-04-28	9	9
10	2024-04-29	10	10
NULL	NULL	NULL	NULL

Result Grid

NAME	MNO_NO
Alice	1
Bob	2
Charlie	3
David	4
Eve	5
Frank	6
Grace	7
Henry	8
Isla	9
Jack	10

Result Grid — Filter Rows:

NAME	BOOK_NAME	ISS_DATE
David	The Power of Now	2024-04-23

Result Grid — F

STUD_NO	NAME

Result Grid — Filter R

SNO	NO_OF_BOOKS
1001	1
1002	1
1003	1
1004	1
1005	1
1006	1
1007	1
1008	1
1009	1
1010	1

Result Grid — Filter Rows:

BOOK_NO	BOOK_NAME	AUTHOR
4	The Power of Now	Eckhart Tolle

Result Grid — F

BOOK_NAME
Rich Dad Poor Dad

Result Grid — Filter Rows:

ITEM_NUMBER	TOTAL_COST
1	20.00
2	15.00
3	24.00
4	20.00
5	48.00

Result Grid — Filter Rows:

CNO	CNAME	CLIENT_REFFERED_BY
1	John Doe	NULL
5	David Brown	2
4	Carol Williams	NULL
3	Bob Johnson	1
2	Alice Smith	NULL
NULL	NULL	NULL

Result Grid

CNO
1
2
3
4
5

Result Grid — Filter Rows:

CLIENT_N0	ORDERNO
CLIENT1	ORDERED1001
CLIENT2	ORDERED1002
CLIENT3	ORDERED1003
CLIENT4	ORDERED1004
CLIENT5	ORDERED1005

Result Grid — Filter Rows:

CLIENT_NAME	ORDER_DATE
John Doe	2024-04-20
Alice Smith	2024-04-21
Bob Johnson	2024-04-22
Carol Williams	2024-04-23
David Brown	2024-04-24

Result Grid — Filter Rows:

CLIENT_NAME	ORDER_DATE
John Doe	2024-04-20
Alice Smith	2024-04-21
Bob Johnson	2024-04-22
Carol Williams	2024-04-23
David Brown	2024-04-24

Result Grid — Filter Rows: — Edit: — Export/Import:

ONO	ORDER_LINE_NUMBER	ITEM_NUMBER	NO_OF_ITEMS	ITEM_COST	SHIPPING_DATE
1001	1	1	2	10.00	2024-04-21
1002	1	2	1	15.00	2024-04-22
1003	1	3	3	8.00	2024-04-23
1004	1	4	1	20.00	2024-04-24
1005	1	5	4	12.00	2024-04-25
NULL	NULL	NULL	NULL	NULL	NULL

Result Grid — Filter Rows:

CLIENT_NO	ORDER_NO
CLIENT1	ORDERED1001
CLIENT2	ORDERED1002
CLIENT3	ORDERED1003
CLIENT4	ORDERED1004
CLIENT5	ORDERED1005
CLIENT6	DID NOT ORDER

Result Grid — Filter Rows:

CNO	ONO	SHIPPING_DATE

Result Grid

COUNT(*)
4

Result Grid — Filter Rows:

CLIENT_NAME	ORDER_DATE
John Doe	2024-04-20
Alice Smith	2024-04-21
Bob Johnson	2024-04-22
Carol Williams	2024-04-23
David Brown	2024-04-24

Result Grid — Filter Rows:

CLIENT_NAME	client_name
JOHN DOE	john doe
ALICE SMITH	alice smith
BOB JOHNSON	bob johnson
CAROL WILLIAMS	carol williams
DAVID BROWN	david brown
HIMANSHU	himanshu

Result Grid — Filter Rows:

CNO	CNAME	CNO	CNAME
3	Bob Johnson	1	John Doe
5	David Brown	2	Alice Smith

Result Grid — Filter Rows

MODEL	TOTAL_CARS
Walgon R	2
Alto	3

Result Grid — Filter

SUBSTR(CNAME,2,4)
ohn
lice
ob J
arol
avid
IMAN

```sql
SELECT SUM(SALARY) AS "Total salary",
 MAX(SALARY) AS "Maximum salary", MIN(SALARY) AS "Minimum salary",
 AVG(SALARY) AS "Average salary" FROM EMPLOYEE;

SELECT DNO, COUNT(*) AS NO_OF_EMPLOYEES,
AVG(SALARY) FROM EMPLOYEE GROUP BY DNO;

-- 7
SELECT FNAME, MINIT, LNAME, ADDRESS FROM EMPLOYEE
WHERE DNO IN (SELECT DNO FROM DEPARTMENT WHERE DNAME="RESEARCH");

SELECT FNAME, MINIT, LNAME FROM EMPLOYEE WHERE
SALARY > (SELECT AVG(SALARY) FROM EMPLOYEE WHERE DNO=10);

SELECT P.PNO, P.DNO, E.LNAME, E.ADDRESS, E.BDATE FROM
EMPLOYEE E, PROJECT P WHERE P.DNO=E.DNO AND
E.SSN IN (SELECT MGR_SSN FROM DEPARTMENT D,
PROJECT P WHERE P.DNO = D.DNO AND P.PLOCATION="STAFFORD");

SELECT DISTINCT E.SSN FROM EMPLOYEE E,
PROJECT P WHERE P.DNO=E.DNO AND PLOCATION IN ("BELLAIRE","HOUSTON","STAFFORD");

SELECT E.FNAME, E.MINIT, E.LNAME, P.PNAME FROM
EMPLOYEE E, PROJECT P, WORKS_ON W WHERE W.PNO=P.PNO AND
E.SSN = W.ESSN ORDER BY P.DNO, E.FNAME;

CREATE VIEW EMRDNO_5 AS SELECT FNAME, MINIT , LNAME, SALARY, DNO FROM EMPLOYEE WHERE DNO=5;

CREATE INDEX ENAME ON EMPLOYEE(FNAME, MINIT, LNAME);

CREATE TABLE OWNS(
    DRIVER_ID VARCHAR(16), Foreign Key (DRIVER_ID) REFERENCES PERSON(DRIVER_ID),
    REGNO VARCHAR(6),
    PRIMARY KEY(DRIVER_ID, REGNO)
);

CREATE Table PARTICIPATED(
    DRIVER_ID VARCHAR(6), Foreign Key (DRIVER_ID) REFERENCES PERSON(DRIVER_ID),
    REGNO VARCHAR(6), Foreign Key (REGNO) REFERENCES CAR(REGNO),
    REPORT_NO INT, Foreign Key (REPORT_NO) REFERENCES ACCIDENT(REPORT_NO),
    DAMAGE_AMOUNT NUMERIC(10,2),
    PRIMARY KEY (DRIVER_ID, REGNO, REPORT_NO)
);

INSERT INTO PERSON VALUES
    ("A11", "Smith", "Banglore"),
    ("A22", "Joe", "Manglore"),
    ("A33", "Riya", "Mysore"),
    ("A44", "Som", "Shimoga"),
    ("A55", "Nelson", "Dharwad");

CREATE DATABASE INSURANCE;

USE INSURANCE;

CREATE Table PERSON(
    DRIVER_ID VARCHAR(6) PRIMARY KEY,
    DNAME VARCHAR(20),
    ADDRESS VARCHAR(15)
);

CREATE Table CAR(
    REGNO VARCHAR(6) PRIMARY KEY,
    MODEL VARCHAR(15),
    YEAR INT
);

CREATE Table ACCIDENT(
    REPORT_NO INT PRIMARY KEY,
    ACC_DATE DATE,
    LOCATION VARCHAR(20)
);

INSERT INTO CAR VALUES
    ("ka1222", "Walgon R", 2002),
    ("ka1231", "Alto", 2001),
    ("ka1232", "Walgon R", 2002),
    ("ka1233", "Alto", 1999),
    ("ka1235", "Walgon R", 2002);

INSERT INTO ACCIDENT VALUES
    (11, "20010102", "banglore"),
    (12, "20020202", "banglore"),
    (13, "20021003", "manglore"),
    (14, "20020912", "myosre"),
    (15, "20020922", "banglore");

INSERT INTO OWNS VALUES
    ("A11", "Ka1235"),
    ("A22", "Ka1231"),
    ("A33", "Ka1222"),
    ("A44", "Ka1233"),
    ("A55", "Ka1233");

INSERT INTO PARTICIPATED VALUES
    ("A11", "Ka1235", 11, 1000),
    ("A22", "Ka1231", 12, 2000),
    ("A33", "Ka1222", 13, 3000),
    ("A44", "Ka1233", 14, 4000),
    ("A55", "Ka1233", 15, 5000);

UPDATE PARTICIPATED
SET DAMAGE_AMOUNT = 25000 WHERE (REPORT_NO = 12 AND REGNO='ka1231');

INSERT INTO ACCIDENT VALUES('33','2003-09-01','Mysore');

SELECT COUNT(*) FROM ACCIDENT
WHERE ACC_DATE LIKE "2002%";

SELECT C.MODEL, COUNT(*) AS TOTAL_CARS FROM CAR C,
PARTICIPATED P WHERE P.REGNO = C.REGNO
GROUP BY C.MODEL;
```

```sql
CREATE DATABASE LIBRARY;

USE LIBRARY;

CREATE TABLE STUDENT(
    STUD_NO INT PRIMARY KEY,
    NAME VARCHAR(15)
);

CREATE TABLE MEMBERSHIP(
    MNO_NO INT PRIMARY KEY,
    SNO INT,
    Foreign Key (SNO) REFERENCES STUDENT(STUD_NO)
);

CREATE TABLE BOOK(
    BOOK_NO INT PRIMARY KEY,
    BOOK_NAME VARCHAR(10) NOT NULL,
    AUTHOR VARCHAR(20)
);

INSERT INTO ISS_REC VALUES
    (1, '2024-04-20', 1, 1),
    (2, '2024-04-21', 2, 2),
    (3, '2024-04-22', 3, 3),
    (4, '2024-04-23', 4, 4),
    (5, '2024-04-24', 5, 5),
    (6, '2024-04-25', 6, 6),
    (7, '2024-04-26', 7, 7),
    (8, '2024-04-27', 8, 8),
    (9, '2024-04-28', 9, 9),
    (10, '2024-04-29', 10, 10);

SELECT * FROM BOOK;
SELECT * FROM ISS_REC;
SELECT * FROM MEMBERSHIP;
SELECT * FROM STUDENT;

SELECT NAME, MNO_NO FROM STUDENT, MEMBERSHIP WHERE
STUDENT.STUD_NO = MEMBERSHIP.SNO;

CREATE TABLE EMPLOYEE (
    EMPID INT PRIMARY KEY,
    E_TYPE VARCHAR(25),
    DNO INT,
    SAL DECIMAL(10, 2),
    FNAME VARCHAR(50),
    LNAME VARCHAR(50)
);

INSERT INTO CLIENT VALUES
    (1, 'John Doe', NULL),
    (2, 'Alice Smith', NULL),
    (3, 'Bob Johnson', 1),
    (4, 'Carol Williams', NULL),
    (5, 'David Brown', 2);

INSERT INTO ORDERS VALUES
    (1001, 1, '2024-04-20', 1001),
    (1002, 2, '2024-04-21', 1002),
    (1003, 3, '2024-04-22', 1003),
    (1004, 4, '2024-04-23', 1004),
    (1005, 5, '2024-04-24', 1005);

INSERT INTO BOOK VALUES
    (1, 'Atomic Habits', 'James Clear'),
    (2, 'The Alchemist', 'Paulo Coelho'),
    (3, 'Think and Grow Rich', 'Napoleon Hill'),
    (4, 'The Power of Now', 'Eckhart Tolle'),
    (5, 'Rich Dad Poor Dad', 'Robert T. Kiyosaki'),
    (6, 'To Kill a Mockingbird', 'Harper Lee'),
    (7, 'The Catcher in the Rye', 'J.D. Salinger'),
    (8, 'Fundamentals of DBMS', 'Elmarsi Navarthe'),
    (9, 'The Great Gatsby', 'F. Scott Fitzgerald'),
    (10, 'Pride and Prejudice', 'Jane Austen');

INSERT INTO MEMBERSHIP VALUES
    (1, 1001),
    (2, 1002),
    (3, 1003),
    (4, 1004),
    (5, 1005),
    (6, 1006),
    (7, 1007),
    (8, 1008),
    (9, 1009),
    (10, 1010);

SELECT S.NAME, B.BOOK_NAME, I.ISS_DATE FROM ISS_REC I,
STUDENT S, BOOK B, MEMBERSHIP M WHERE S.STUD_NO=M.SNO
AND M.MNO_NO = I.MNO AND B.BOOK_NO=I.BOOK_NO AND I.ISS_DATE = current_date();

SELECT S.STUD_NO, S.NAME FROM STUDENT S, ISS_REC I, MEMBERSHIP M
WHERE S.STUD_NO=M.SNO AND M.MNO_NO = I.MNO AND I.BOOK_NO =
(SELECT BOOK_NO FROM BOOK WHERE AUTHOR = "NAVATHE");

SELECT M.SNO , COUNT(I.BOOK_NO) AS NO_OF_BOOKS FROM ISS_REC I,
MEMBERSHIP M WHERE M.MNO_NO = I.MNO
GROUP BY SNO;

SELECT B.BOOK_NAME FROM ISS_REC I, BOOK B, MEMBERSHIP M
WHERE M.MNO_NO = I.MNO AND B.BOOK_NO = I.BOOK_NO AND M.SNO = "1005";

SELECT BOOK.* FROM BOOK, ISS_REC
WHERE BOOK.BOOK_NO = ISS_REC.BOOK_NO
AND ISS_REC.ISS_DATE = current_date();

CREATE VIEW ISS_DETAIL AS SELECT I.ISS_NO, I.ISS_DATE,
S.NAME, B.BOOK_NAME FROM ISS_REC I, STUDENT S, MEMBERSHIP M, BOOK B
WHERE B.BOOK_NO = I.BOOK_NO AND S.STUD_NO = M.SNO
AND M.MNO_NO = I.MNO;
```

```sql
CREATE TABLE ORDER_LINE (
    ONO INT, FOREIGN KEY(ONO) REFERENCES ORDERS(ONO),
    ORDER_LINE_NUMBER INT,
    ITEM_NUMBER INT, FOREIGN KEY(ITEM_NUMBER) REFERENCES ITEM(ITEM_NUMBER),
    NO_OF_ITEMS INT,
    ITEM_COST DECIMAL(10, 2),
    SHIPPING_DATE DATE,
    PRIMARY KEY(ONO, ORDER_LINE_NUMBER)
);

CREATE TABLE ITEM (
    ITEM_NUMBER INT PRIMARY KEY,
    ITEM_TYPE VARCHAR(100),
    COST DECIMAL(10, 2)
);


INSERT INTO EMPLOYEE VALUES
    (1001, 1, 101, 50000.00, 'John', 'Doe'),
    (1002, 1, 102, 55000.00, 'Alice', 'Smith'),
    (1003, 2, 103, 60000.00, 'Bob', 'Johnson'),
    (1004, 2, 104, 65000.00, 'Carol', 'Williams'),
    (1005, 3, 105, 70000.00, 'David', 'Brown');

SELECT * FROM CLIENT
ORDER BY CNAME DESC;

SELECT ITEM_NUMBER, NO_OF_ITEMS*ITEM_COST AS TOTAL_COST FROM ORDER_LINE;

SELECT DISTINCT CNO FROM ORDERS;

SELECT CONCAT('CLIENT',CNO) AS CLIENT_N0, CONCAT('ORDERED', ONO) AS
ORDERNO FROM ORDERS;

SELECT * FROM ORDER_LINE WHERE ITEM_NUMBER BETWEEN 1 AND 200
OR ITEM_NUMBER > 1000 AND ITEM_COST NOT IN (1000, 2000, 3000)
OR ONO <> 100;


SELECT C.CNAME AS CLIENT_NAME, O.O_DATE AS ORDER_DATE FROM
ORDERS O JOIN CLIENT C ON O.CNO=C.CNO;

SELECT O.CNO, O.ONO, OL.SHIPPING_DATE FROM ORDER_LINE OL, ORDERS O
WHERE O.ONO=OL.ONO AND SHIPPING_DATE BETWEEN DATE_ADD(O.O_DATE, INTERVAL 3 MONTH) AND DATE_ADD(O.O_DATE, INTERVAL 6 MONTH);

SELECT R.CNO, R.CNAME, C.CNO, C.CNAME FROM CLIENT C JOIN CLIENT R
ON C.CNO = R.CLIENT_REFFERED_BY;

SELECT UPPER(CNAME) AS CLIENT_NAME, LOWER(CNAME) AS client_name
FROM CLIENT;

SELECT SUBSTR(CNAME,2,4) FROM CLIENT;
```

```sql
INSERT INTO ORDER_LINE VALUES
    (1001, 1, 1, 2, 10.00, '2024-04-21'),
    (1002, 1, 2, 1, 15.00, '2024-04-22'),
    (1003, 1, 3, 3, 8.00, '2024-04-23'),
    (1004, 1, 4, 1, 20.00, '2024-04-24'),
    (1005, 1, 5, 4, 12.00, '2024-04-25');

INSERT INTO ITEM VALUES
    (1, 'Type A', 10.00),
    (2, 'Type B', 15.00),
    (3, 'Type C', 8.00),
    (4, 'Type D', 20.00),
    (5, 'Type E', 12.00);

SELECT C.CNAME AS CLIENT_NAME, O.O_DATE AS ORDER_DATE
FROM ORDERS O, CLIENT C WHERE C.CNO = O.CNO;

INSERT INTO CLIENT VALUES
(6,"HIMANSHU",NULL);

SELECT CONCAT('CLIENT', CNO) AS CLIENT_NO,
CONCAT('ORDERED',ONO) AS ORDER_NO FROM ORDERS UNION
SELECT CONCAT('CLIENT', CNO) AS CLIENT_NO,
"DID NOT ORDER" AS ORDER_NO
FROM CLIENT WHERE CNO NOT IN
(SELECT CNO FROM ORDERS);

SELECT C.CNAME AS CLIENT_NAME, O.O_DATE AS ORDER_DATE
FROM ORDERS O INNER JOIN CLIENT C ON O.CNO=C.CNO;
```