EXAMPLES WITH COMPANY DATABASE:

QC1) Retrieve the birth date and address of the employee whose name is "ALICE SMITH".

```
SELECT    BDATE, ADDRESS
FROM      EMPLOYEE
WHERE     FNAME='ALICE' AND LNAME='SMITH';
```

QC2) Retrieve the name and address of all employees who work for the 'Research' department.

```
SELECT    FNAME, LNAME, ADDRESS
FROM      EMPLOYEE, DEPARTMENT
WHERE     DNAME='RESEARCH' AND DNUMBER = DNO;
```

QC3) For every project located in "Stafford" list the project number, the controlling department number, and the department manager's last name, address, and birth date.

```
SELECT    PNUMBER, DNUM, LNAME, ADDRESS, BDATE
FROM      PROJECT, DEPARTMENT, EMPLOYEE
WHERE     DNUM=DNUMBER AND MGRSSN=SSN AND
              PLOCATION='STAFFORD';
```

QC4) For each employee, retrieve the employee's first and last name and the first and last name of his or her immediate supervisor.

```
SELECT    E.FNAME, E.LNAME, S.FNAME, S.LNAME
FROM      EMPLOYEE E, EMPLOYEE S
WHERE     E.SUPERSSN=S.SSN;
```

(Here, E and S used as an alternative relation names and they are called as **aliases. AS** CAN BE IGNORED)

If we write the following sentence in the FROM clause, we can use the new names as the attributes also.

```
EMPLOYEE AS E(FN, MI, LN, SSN, BD, ADDR, SEX, SAL, SSSN, DNO)
```

Some attributes also can be renamed as:

```
SELECT    E. LNAME AS EMPLOYEE_NAME, S.LNAME AS SUPERVISOR_NAME
FROM      EMPLOYEE E, EMPLOYEE S
WHERE     E.SUPERSSN=S.SSN;
```

QC5) Select all employee SSN

```
SELECT    SSN
FROM      EMPLOYEE;
```

QC6) Select all combinations of an employee SSN and a department DNAME (Cartesian product)

```
SELECT    SSN, DNAME
FROM      EMPLOYEE, DEPARTMENT;
```

QC7) Retrieve all the attribute values of the employee tuples of department 1.

```
SELECT    *
FROM      EMPLOYEE
WHERE     DNO=1;
```

QC8) Retrieve all the attributes of employee for employees working in Research department.

```
SELECT    *
FROM      EMPLOYEE, DEPARTMENT
WHERE     DNAME='RESEARCH' AND DNO=DNUMBER;
```

QC9) Specify Cartesian product of employee and department

```
SELECT    *
FROM      EMPLOYEE, DEPARTMENT;
```

QC10) Retrieve salary of all employees

```
SELECT    SALARY
FROM      EMPLOYEE;
```

QC11) Retrieve only distinct salary values. – To eliminate duplicate rows.

```
SELECT    DISTINCT SALARY
FROM      EMPLOYEE;
```

QC12) Select all employees whose address is Houston.

```
SELECT    FNAME, LNAME
FROM      EMPLOYEE
WHERE     ADDRESS LIKE '%HOUSTON%';
```

QC13) Retrieve all employees who were born during the 1950s.

```
SELECT    FNAME, LNAME, BDATE
FROM      EMPLOYEE
WHERE     BDATE LIKE '%5_';
```

QC14) Show the resulting salaries of every employee working on the 'Product X' project as they are given a 10% raise.

```
SELECT    FNAME, LNAME, 1.1*SALARY
FROM      EMPLOYEE, WORKS_ON, PROJECT
WHERE     SSN=ESSN AND PNO=PNUMBER AND PNAME='PRODUCT_X';
```

➔ ***Arithmetic expressions containing a null value evaluate to null.***
(If salary is null in any row of employee table, for that row the above calculation will also be null.)

QC15) Retrieve all employees in department 1 whose salary is between $1500 and $2000

```
SELECT    *
FROM      EMPLOYEE
WHERE     (SALARY BETWEEN 1500 AND 2000) AND DNO = 1;
```

QC16) Retrieve a list of employees and the projects each works in , ordered by the employees department and within each department ordered alphabetically by name.

```
SELECT    DNAME, LNAME, FNAME, PNAME
FROM      DEPARTMENT, EMPLOYEE, WORKS_ON, PROJECT
WHERE     DNUMBER=DNO AND SSN=ESSN AND PNO=PNUMBER
ORDER BY  DNAME,LNAME, FNAME;
```