SQL Functions and Queries Notes - Refined

# 1. CONCAT Function

Oracle's CONCAT function allows only two parameters at a time. For combining more than two strings, either nest CONCAT or use the || (concatenation operator).

Example 1 – Basic CONCAT:

SELECT CONCAT('THE EMPLOYEE NAME IS ', ENAME) FROM EMP;

Example 2 – Nested CONCAT:

SELECT CONCAT('THE EMPLOYEE NAME IS ',   
 CONCAT(ENAME,   
 CONCAT(' WORKING AS ', JOB)))  
FROM EMP;

Recommended Method – Using || operator:

SELECT 'THE EMPLOYEE NAME IS ' || ENAME || ' WORKING AS ' || JOB FROM EMP;

Q1) Show: THE EMPLOYEE NAME IS ENAME AND WORKING AS JOB AND HIRED ON HIREDATE

SELECT 'THE EMPLOYEE NAME IS ' || ENAME ||   
 ' AND WORKING AS ' || JOB ||   
 ' AND HIRED ON ' || TO\_CHAR(HIREDATE, 'DD-MON-YYYY')  
FROM EMP;

# 2. ROUND Function

The ROUND function is used to round numeric values to the nearest value based on the decimal or negative places.

Examples:

SELECT ROUND(982.7897667, 2) FROM DUAL;

SELECT ROUND(874.87333, 2) FROM DUAL;

SELECT ROUND(874.87333, 0) FROM DUAL;

SELECT ROUND(837.987837, -1) FROM DUAL;

SELECT ROUND(984, -1) FROM DUAL;

SELECT ROUND(984, -2) FROM DUAL;

SELECT ROUND(44, -2) FROM DUAL;

# 3. DATE and TO\_CHAR Functions

Use CURRENT\_DATE to get today’s date. TO\_CHAR converts date to string format like year, month, day etc.

Get Current Date:

SELECT CURRENT\_DATE FROM DUAL;

Extract Year:

SELECT TO\_CHAR(CURRENT\_DATE, 'YYYY') FROM DUAL;

SELECT TO\_CHAR(CURRENT\_DATE, 'YEAR') FROM DUAL;

SELECT TO\_CHAR(CURRENT\_DATE, 'YY') FROM DUAL;

Extract Month:

SELECT TO\_CHAR(HIREDATE, 'MM') FROM EMP;

SELECT TO\_CHAR(HIREDATE, 'MONTH') FROM EMP;

Extract Day:

SELECT TO\_CHAR(SYSDATE, 'DD') FROM DUAL;

SELECT TO\_CHAR(SYSDATE, 'DAY') FROM DUAL;

Q2) Get employees hired on Monday:

SELECT \* FROM EMP WHERE TO\_CHAR(HIREDATE, 'DAY') = 'MONDAY ';

***SELECT \* FROM EMP WHERE TO\_CHAR(HIREDATE, 'D') = 2;***

# 4. MOD Function

MOD returns the remainder of a division operation.

SELECT MOD(-10, 2) FROM DUAL;

SELECT MOD(11, 2) FROM DUAL;

SELECT MOD(1, 2) FROM DUAL;

Q3) Get employees hired in even years:

SELECT \* FROM EMP WHERE MOD(TO\_CHAR(HIREDATE, 'YYYY'), 2) = 0;

# 5. Employee Experience

To get the experience of an employee in years, use MONTHS\_BETWEEN function.

SELECT FLOOR(MONTHS\_BETWEEN(SYSDATE, HIREDATE)/12) AS EXPERIENCE\_YEARS  
FROM EMP;

# 6. Assignment: Leap Year Check

Check if an employee was hired in a leap year:

SELECT \* FROM EMP WHERE MOD(TO\_CHAR(HIREDATE, 'YYYY'), 4) = 0;

# 7. NVL Function

NVL is used to replace NULL values with default values.

Example:

SELECT NVL(COMM, 0) FROM EMP;

Q4) Show employee name, salary, commission, and total salary (SAL + COMM):

SELECT ENAME, SAL, COMM, SAL + NVL(COMM, 0) AS TOTAL\_SALARY  
FROM EMP;