LAB No 5.

Objective: Working with DATE in SQL Plus

Theory:

Syntax of commands

SQL> select sysdate from dual;

```
SQL> select sysdate from dual;

SYSDATE
---------
13-JUN-23
```

If you want to display both the date and time components using Oracle SQL*Plus, you can adjust the format of the output using the TO_CHAR function

This query uses the **TO_CHAR** function to convert the SYSDATE to a string format with the desired date and time representation.

In this case, the format mask 'YYYY-MM-DD HH24:MI:SS' is used to specify the format.

The output will include both the date and time components.

```
SQL> SELECT TO_CHAR(SYSDATE, 'YYYY-MM-DD HH24:MI:SS') FROM DUAL;

TO_CHAR(SYSDATE,'YY
-------------------
2023-06-13 02:32:33
```

Assume SYSDATE = '13-JUN-23':

• ROUND(SYSDATE,'MONTH')

This function rounds the current system date (SYSDATE) to the nearest month.

The result will be the first day of the following month.

For example, if the current date is '2023-06-13', the rounded result will be '2023-06-01'.

• ROUND(SYSDATE ,'YEAR')

This function rounds the current system date (SYSDATE) to the nearest year.

The result will be the first day of the following year.

For example, if the current date is '2023-06-13', the rounded result will be '2023-01-01'.

• TRUNC(SYSDATE ,'MONTH')

This function truncates the current system date (SYSDATE) to the beginning of the current month.

The result will be the first day of the current month.

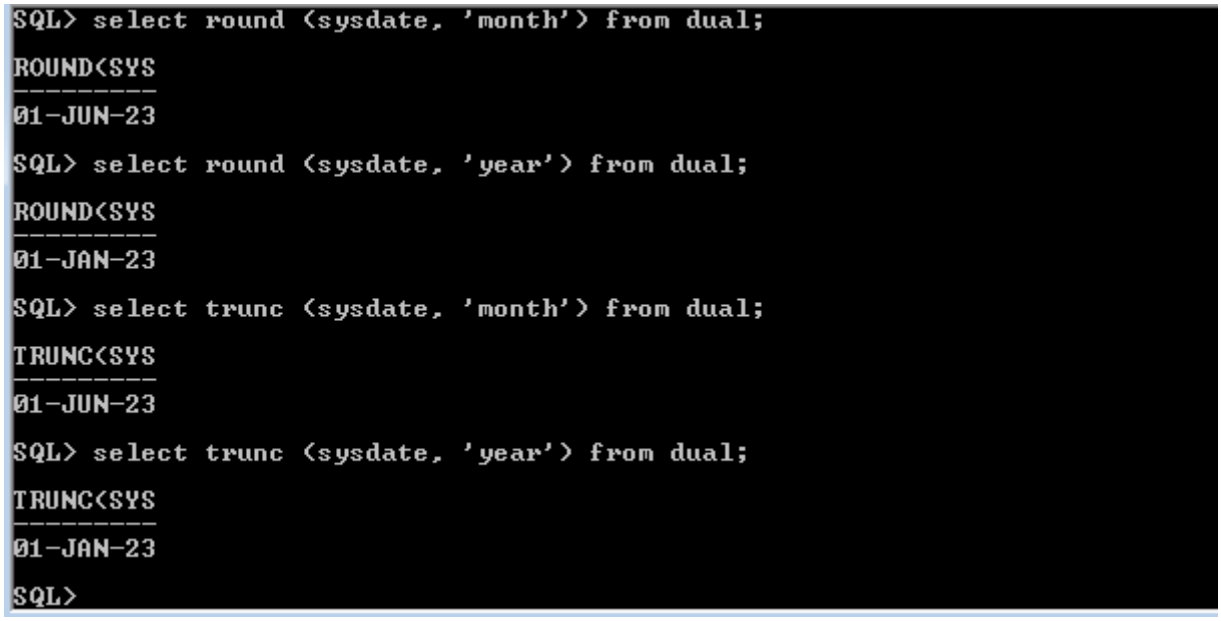
For example, if the current date is '2023-06-13', the truncated result will be '2023-06-01'.

• TRUNC(SYSDATE ,'YEAR')

This function truncates the current system date (SYSDATE) to the beginning of the current year.

The result will be the first day of the current year.

For example, if the current date is '2023-06-13', the truncated result will be '2023-01-01'.



- **Working with the dates in table employee**

We add another column of hire_date in table employee and add values to it;

```
SQL> alter table employee add hire_date date;

Table altered.

SQL> desc employee;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------

 EMPID                                     NOT NULL VARCHAR2(10)
 ENAME                                     NOT NULL VARCHAR2(20)
 SALARY                                    NOT NULL NUMBER(10)
 DEPTNO                                    NOT NULL VARCHAR2(10)
 HIRE_DATE                                          DATE
```

```
SQL> update employee set hire_date=TO_DATE('2023-06-13', 'YYYY-MM-DD') where emp
id=1;

1 row updated.

SQL> select * from employee;

EMPID      ENAME                SALARY DEPTNO     HIRE_DATE
---------- -------------------- ---------- ---------- ---------
1          shiza                  5000 se         13-JUN-23
2          sana                  70900 csiti

SQL> update employee set hire_date=TO_DATE('2023-06-13', 'YYYY-MM-DD') where emp
id=2;

1 row updated.
```

Rounding and truncating the hire_date;

```
SQL> select round(hire_date, 'month') from employee;

ROUND(HIR
---------
01-JUN-23
01-JUN-23

SQL> select round(hire_date, 'year') from employee;

ROUND(HIR
---------
01-JAN-23
01-JAN-23
```

Arithmetic Operations with dates:

SQL> select ename, (SYSDATE-hire_date)/7 AS WEEKS FROM employee;

```
SQL> select ename, (sysdate-hire_date)/7 as weeks from employee;

ENAME                    WEEKS
-------------------- ----------
shiza                .017291667
sana                 1.73157738

SQL>
```

The calculation (SYSDATE-hiredate)/7 computes the number of days between the hire date and the current date and then divides it by 7 to get the corresponding number of weeks. The result is displayed in the result set as the WEEKS column.

Adding a number of days:

SQL> select hire_date+ 7 FROM employee;

```
SQL> select hire_date+7 from employee;

HIRE_DATE
---------
20-JUN-23
08-JUN-23
```

Subtracting a number of days:

SQL> select hire_date-6 FROM employee;

```
SQL> select hire_date-6 from employee;

HIRE_DATE
---------
07-JUN-23
26-MAY-23
```

Adding months to date;

SQL> select add_months(hire_date,6) FROM employee;

```
SQL> select add_months(hire_date, 6) from employee;

ADD_MONTH
---------
13-DEC-23
01-DEC-23
```

Subtracting a number of months:

SQL> select add_months(hire_date,-6) FROM employee;

```
SQL> select add_months(hire_date,-6) from employee;

ADD_MONTH
---------
13-DEC-22
01-DEC-22
```

Adding a number of years:

SQL> select add_months(hire_date,6*12) FROM employee;

```
SQL> select add_months(hire_date,6*12) from employee;

ADD_MONTH
---------
13-JUN-29
01-JUN-29
```

Subtracting a number of years:

SQL> select add_months(hire_date,-6*12) FROM employee;

```
SQL> select add_months(hire_date,-6*12) from employee;

ADD_MONTH
---------
13-JUN-17
01-JUN-17
```