**EX.NO:08                                                             DATE AND TIME FUNCTIONS**

**02.05.2024**

**AIM**

To perform SQL date and time functions.

**Table:**

create table empl(eid number(5),ename varchar(10),salary number(7),dept varchar(6),doj date,dob date);

SQL>  insert into empl values

(1,'babu',90000,'IT',to\_date('12-03-2024','dd-mm-yyyy'),to\_date('29-03-2005','dd-mm-yyyy');

SQL>select \* from empl;

       EID ENAME          SALARY DEPT   DOJ       DOB

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         1 Babu            90000 IT     12-MAR- 24 29-MAR-05

         2 Suji            80000 ECE    17-AUG-26 29-MAR-06

         3 Devi            75000 IT     01-APR-11 29-MAR-97

         4 Viknesh      10000 IT     19-JUL-17 13-JUL-98

         5 Sabari        18000 ECE    01-APR-87 18-JUN-55

         6 Subha         50000 CSE    01-OCT-99 03-FEB-89

**DATE AND TIME FUNCTIONS ON EMPLOYEE TABLE:**

**To Calculate experience for eid=1:**

SQL> select ename,dept,round(months\_between(sysdate,doj)/12) as experience from empl where eid=1;

ENAME      DEPT   EXPERIENCE

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Babu       IT              0

**To Calculate age for eid=1:**

SQL>select ename,dept,round(months\_between(sysdate,dob)/12) as Age from empl where eid=1;

ENAME      DEPT          AGE

---------- ------ ----------

Babu       IT             19

**To Calculate both age and experience for the relation:**

SQL>  select ename,dept,round(months\_between(sysdate,dob)/12)as Age,round(months\_between(sysdate,doj)/12) as experience from empl;

ENAME      DEPT      AGE EXPERIENCE

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Babu       IT             19          0

Suji       ECE           18         0

Devi       IT             27         13

Viknesh    IT             26          7

Sabari     ECE           69         37

Subha      CSE           35         25

**TO FIND THE PROMOTION DATE:**

SQL> select eid,ename,dept,doj+interval'10' year as promotion from empl;

       EID ENAME      DEPT   PROMOTION

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         1 Babu       IT     12-MAR-34

         2 Suji       ECE    17-AUG-36

         3 Devi       IT     01-APR-21

         4 Viknesh    IT     19-JUL-27

         5 Sabari     ECE    01-APR-97

         6 Subha      CSE    01-OCT-09

**TO FIND YEAR OF JOINING:**

SQL> select eid,ename,dept,extract(year from doj) as Year\_of\_joining from empl;

       EID ENAME      DEPT   YEAR\_OF\_JOINING

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         1 Babu       IT                2024

         2 Suji       ECE             2026

         3 Devi       IT                2011

         4 Viknesh    IT                2017

         5 Sabari     ECE               1987

         6 Subha      CSE               1999

**To find Number of months working months:**  
SQL>  select eid,ename,dept,trunc(months\_between(sysdate,doj)) as no\_of\_working\_months from empl;

       EID ENAME      DEPT   NO\_OF\_WORKING\_MONTHS

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         1 Babu       IT                        1

         2 Suji       ECE                       1

         3 Devi       IT                      157

         4 Viknesh    IT                       81

         5 Sabari     ECE                     445

         6 Subha      CSE                     295

**TO FIND SENIOR EMPLOYEE :**

SQL>  select  eid,ename,dept,doj from empl where doj=(select min(doj) from empl);

       EID ENAME      DEPT   DOJ

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         5 Sabari     ECE    01-APR-87

**TO FIND EMPLOYEES HIRED ON SAME DAY:**

SQL>select doj,count(\*) as empl\_hired\_on\_same\_day from empl group by doj order by doj;

DOJ       EMPL\_HIRED\_ON\_SAME\_DAY

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01-APR-87                      1

01-OCT-99                      1

01-APR-11                      1

19-JUL-17                      1

12-MAR-24                     1

17-AUG-26                    1

**TIMESTAMP:**

SQL>create table student(sid number(6) primary key,fname varchar(10),lname varchar(10),email varchar(20),enrollment\_date timestamp default current\_timestamp);

SQL> insert into student(sid,fname,lname,email) values(1,'john','Doe','john@

gmail.com');

SQL> select \* from student;

       SID FNAME      LNAME      EMAIL                          ENROLLMENT\_DATE

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         1    john       Doe           [john@gmail.com](mailto:john@gmail.com)      02-MAY-24 06.35.06.598000 PM

SQL>insert into student(sid,fname,lname,email,enrollment\_date) values(2,'dinesh','babu','dineshbabu@gmail.com',to\_date('03-MAY-2024 10:30:00','DD-MON-YYYY HH24:MI:SS'));

SQL> select \* from student;

       SID FNAME   LNAME     EMAIL                      ENROLLMENT\_DATE

---------------------------------------------------------------------------------------------------------

         1   john        Doe          [john@gmail.com](mailto:john@gmail.com)                02-MAY-24 06.35.06.598000 PM

         2  dinesh     babu      [dineshbabu@gmail.com](mailto:dineshkuma@gmail.com)    03-MAY-24 10.30.00.000000 AM

**DATE AND TIME FUNCTIONS ON DUAL :**

**CURRENT DATE:**

     \*This function is used to get the current date in the session time zone

SQL> select current\_date from dual;

CURRENT\_D

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08-MAY-24

**SYS DATE:**

**\***This function returns the current date and time of the Operating system

SQL> select sysdate from dual;

SYSDATE

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08-MAY-24

**EXTRACT:**

**\*** This extract function  is used to retrieve a specific component which can be year, day, month.

**For Year**

SQL> select extract(year from to\_date('2020-01-13','YYYY-MM-DD')) as YEAR from dual;

      YEAR

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      2020

For Month

SQL> select extract(month from to\_date('2020-01-13','YYYY-MM-DD')) as MONTH from dual;

     MONTH

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         1

**TO\_DATE:**

**\***This function converts a date which is in string type to date value

SQL> select to\_date('23 JUL 2005','DD MON YYYY') converted\_date from dual;

CONVERTED

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23-JUL-05

**TO\_CHAR:**

**\*** It is used to convert a date from DATE value to a specified date format.

SQL> select to\_char(sysdate,'DD MM YYYY') as NEW\_DATE from dual;

NEW\_DATE

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08 05 2024

SQL> select to\_char(sysdate,'DD/MM/YYYY') as NEW\_DATE from dual;

NEW\_DATE

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08/05/2024

**LAST\_DAY:**

**\***This function is used to return the last day of the month of the particular date.

SQL> select last\_day(sysdate) LAST\_DAY from dual;

LAST\_DAY

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31-MAY-24

**MONTHS\_BETWEEN:**

**\***This function is used to calculate the months between two dates.

      \* Round function is used to rounds the value to the specified decimal place.

SQL> select round(months\_between(sysdate,date '2011-04-02')) MONTH\_DIFFERENC

E from dual;

MONTH\_DIFFERENCE

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             157

**ADD\_MONTHS:**

**\***This function adds N months to a date and returns the same day N month after.

SQL> select add\_months(sysdate,2) NEWDATE from dual;

NEWDATE

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08-JUL-24

**CURRENT\_TIMESTAMP:**

**\***This function returns the current date and time in the session time zone.

SQL> select current\_timestamp from dual;

CURRENT\_TIMESTAMP

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08-MAY-24 08.47.39.205000 PM +05:30

**NEW\_TIME:**

    \*This function converts a date from one time zone to a different time zone.

SQL> select new\_time(sysdate,'pst','ast') TIME\_IN\_AST from dual;

TIME\_IN\_A

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09-MAY-24

**SESSIONTIMEZONE:**

**\***This function as the name suggest returns the time zone of the current working session.

SQL> select sessiontimezone from dual;

SESSIONTIMEZONE

---------------------------------------------------------------------------

+05:30

**SYSTIMESTAMP:**

**\***This function represents a timestamp with a time zone. It displays the result up to fractional seconds.

SQL> select systimestamp from dual;

SYSTIMESTAMP

---------------------------------------------------------------------------

08-MAY-24 08.48.35.187000 PM +05:30

**TRUNC:**

**\*** TRUNC function in Oracle to truncate the current date (SYSDATE) to the beginning of the current month

SQL> select trunc(sysdate,'MM') MONTH from dual;

MONTH

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01-MAY-24

**TZ\_OFFSET:**

**\***This function returns offset of a time zone name from UTC.

SQL> select TZ\_OFFSET('Indian/Christmas') as OFFSET from dual;

OFFSET

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+07:00

**To retrieve list of distinct time Zone:**

    \*used to retrieve a list of distinct time zone names from the v$timezone\_names view in Oracle database

SQL>  select distinct tzname from v$timezone\_names order by tzname;

|  |  |  |
| --- | --- | --- |
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| Viva | 10 |  |
| Total | 60 |  |

**RESULT:**

           Thus, the SQL date and time functions were performed successfully.