EXPERIMENT: 4

QUERIES USING CONVERSION FUNCTIONS (TO_CHAR, TO_NUMBER AND TO_DATE), STRING FUNCTIONS (CONCATENATION, LPAD, RPAD, LTRIM, RTRIM, LOWER, UPPER, INITCAP, LENGTH, SUBSTR AND INSTR), DATE FUNCTIONS (SYSDATE, NEXT_DAY, ADD_MONTHS, LAST_DAY, MONTHS_BETWEEN, LEAST, GREATEST, TRUNC, ROUND, TO_CHAR)

SQL> select *from emp;

ENO	ENAME	SALARY	LOC
101	ali	15000	vja
102	haji	20000	hyd
103	mohammad	42000	vja
104	ravi	23000	gnt
105	irfath	50000	hyd

a) Conversion Functions:

1. to_char: to_char is used to convert the attribute values to char.

SQL> select to_char(salary,'$99999.99') from emp;

TO_CHAR(SALARY)
$15000.00
$20000.00
$42000.00
$23000.00
$50000.00

SQL> SELECT TO_CHAR (123.4567, '99999.9') FROM DUAL;

TO_CHAR (
123.5

SQL> SELECT TO_CHAR(123.4567, '99999.99') FROM DUAL;

TO_CHAR(1
123.46

SQL> SELECT TO_CHAR(1234.56789,'9,999.00') FROM DUAL;

```
TO_CHAR(1
------
 1,234.57

SQL> SELECT TO_CHAR(SYSDATE, 'YYYY/MM/DD') FROM DUAL;

TO_CHAR(SY
-------
2021/07/09

SQL>  SELECT TO_CHAR (SYSDATE, 'DD/MM/YYYY') FROM DUAL;

TO_CHAR(SY
-------
09/07/2021

SQL> SELECT TO_CHAR (23, '000099') FROM DUAL;

TO_CHAR
-----
 000023

SQL> SELECT TO_CHAR (23, '0000999') FROM DUAL;

TO_CHAR(
-------
 0000023

SQL>  SELECT TO_CHAR (23, '00009') FROM DUAL;

TO_CHA
----
 00023

SQL> SELECT TO_CHAR (23, '00000') FROM DUAL;

TO_CHA
----
 00023

SQL> SELECT TO_CHAR (234.5678, '00.00') FROM DUAL;

TO_CHA
----
######
```

```
SQL> SELECT TO_CHAR (234.5678, '000.000') FROM DUAL;

TO_CHAR(
--------
 234.568

SQL> SELECT TO_CHAR(2345.234566, '1,23.000') FROM DUAL;
SELECT TO_CHAR(2345.234566, '1,23.000') FROM DUAL
                            *
ERROR at line 1:
ORA-01481: invalid number format model

SQL> SELECT TO_CHAR (2345.2345, '9,000.00') FROM DUAL;

TO_CHAR(2
---------
 2,345.23

SQL> SELECT TO_CHAR (2345.2345, '$9,000.00') FROM DUAL;

TO_CHAR(23
----------
 $2,345.23
```

2. to_number: to_number is used to convert the attribute value to number.

```
SQL> SELECT  TO_NUMBER('1210.73', '9999.99') FROM DUAL;

       TO_NUMBER('1210.73','9999.99')
       ------------------------------
                            1210.73
```

3. to_date: to_date is used for convert and display the attribute values as date.

```
SQL> select to_date('01-01-2020', 'MM-DD-YYYY') from dual;

TO_DATE('
---------
01-JAN-20
```

b) String functions:

1. **Concatenation:** CONCAT is used to add two attribute values such as string.

SQL> select concat (eno, loc) from emp;

```
CONCAT(ENO,LOC)
--------------------------------
101vja
102hyd
103vja
104gnt
105hyd
```

2. **lpad:** LPAD() function is used to padding the left side of a string with a specific set of characters.

SQL> select lpad(ename,10,'*') from emp;

```
LPAD(ENAME,10,'*')
--------------------------
*******ali
******haji
**mohammad
******ravi
****irfath
```

3. **rpad**: RPAD() function is used to padding the right side of a string with a specific set of characters.

SQL> select rpad(ename,10,'*') from emp;

```
RPAD(ENAME,10,'*')
--------------------------
ali*******
haji******
mohammad**
ravi******
irfath****
```

4. **ltrim**: LTRIM() function is used to remove all specified characters from the left end side of a string

SQL> select ltrim('****hi********','*') from dual;**

```
LTRIM('***
-------
hi********
```

5. **rtrim:** RTRIM() function is used to remove all specified characters from the left end side of a string

   SQL> select rtrim('****hi********','*') from dual;**

```
RTRIM('*
------
******hi
```

6. **lower:** lower() function is used to convert the attribute value in to lower case.

   SQL> select lower(ename) from emp;

```
LOWER(ENAM
-------
ali
haji
mohammad
ravi
irfath
```

7. **upper**: upper() function is used to convert the attribute values in to upper case.

   SQL> select upper(ename) from emp;

```
UPPER(ENAM
-------
ALI
HAJI
MOHAMMAD
RAVI
IRFATH
```

8. **initcap**: initcap() is used to convert the attribute values first character in capital letter.

   SQL> select initcap (ename) from emp;

```
INITCAP(EN
-------
Ali
Haji
Mohammad
Ravi
Irfath
```

9. **length**: length() function is used to calculate the length of the given attribute.

   SQL> select ename,length(ename) from emp;

```
ENAME      LENGTH(ENAME)
-------  ---------------
ali                  3
haji                 4
mohammad             8
ravi                 4
irfath               6
```

10. **substr**:substr() function is used to find the substring of the given attribute value. It retuns size-1 of the given string/ attribute as a sub string.

    SQL> select ename, substr(ename,4) from emp;

```
ENAME      SUBSTR(ENAME,4)
-------  --------------------------------
ali
haji                    i
mohammad    ammad
ravi                    i
irfath                 ath
```

11. **instr**: instr() function return the location of starting passion of the sub string in the existing value.

    SQL> select instr('welcome to CRRCOE','to') from dual;

INSTR('WELCOMETO CRRCOE','TO')

9

c) Date functions:

1. **Sysdate()**: sysdate() function returns the current system date.

   SQL> select sysdate from dual;

   SYSDATE

   28-APR-21

2. **next_day()**; it reurns the date of next coming day .

   SQL> select next_day(sysdate,'sunday') from dual;

   NEXT_DAY(

   02-MAY-21

3. **add_months()**: it returns the next date after adding number of months in the orguments.

   SQL> select add_months(sysdate,5) from dual;

   ADD_MONTH

   28-SEP-21

4. **last_day()**: The LAST_DAY() function takes a date value as argument and returns the last day of month in that date

   SQL> select last_day(sysdate) from dual;

   LAST_DAY(

   30-APR-21

   SQL> select last_day('02-FEB-2020') from dual;

   LAST_DAY(

29-FEB-20

5. **months_between()**: it returns the numbers of months between given two dates.

   SQL> select months_between('02-feb-2021','02-feb-2020') from dual;

   MONTHS_BETWEEN('02-FEB-2021','02-FEB-2020')

   12

   SQL> select months_between(sysdate,'02-feb-2020') from dual;

   MONTHS_BETWEEN(SYSDATE,'02-FEB-2020')

   14.8600769

6. **least()**: it retuns least value from the given argument or attributes.

   SQL> select least(300,450,100,440) from dual;

   LEAST(300,450,100,440)

   100

7. **greatest()**: it returns maximum values from the given arguments or attributes in the relation.

   SQL> select greatest(300,450,100,440) from dual;

   GREATEST(300,450,100,440)

   450

8. **trunc()**: The TRUNC() function returns a DATE value truncated to a specified unit.

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

   TRUNC(SYS

   01-APR-21

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

   TRUNC(SYS

01-JAN-21

9. **round()**: Round function round a number to a specified length or precision.

   SQL> select round(12.49,0) from dual;

   ROUND(12.49,0)

   12

   SQL> select round(12.51,0) from dual;

   ROUND(12.51,0)

   13

10. **to_char()**: it convert the given date type attribute values to text and return the date in the specific format.

    SQL> select to_char(sysdate,'yyyy-mm-dd') from dual;

    TO_CHAR(SY

    2021-04-28