EXERCISE 4: SQL BUILT IN FUNCTIONS

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Create an EMPLOYEE Table with the following attributes

EMPID, EMPNAME, JOB, DOB, SALARY, DEPTNO, GENDER

Query:-

CREATE TABLE EMPLOYEE_21BRS1593(EMPID INT,EMPNAME VARCHAR(10),JOB VARCHAR(10),DOB DATE,SALARY INT,DEPTNO VARCHAR(5),GENDER VARCHAR(6));

```
SQL> SELECT * FROM EMPLOYEE_21BRS1593;

     EMPID EMPNAME    JOB         DOB           SALARY DEPTN GENDER
---------- ---------- ----------- --------- ---------- ----- ------
         1 PRIKSHIT   DIRECTOR    30-AUG-03      32000 D001  MALE
         2 PRIYANSHU  SR.ENGINEER 02-NOV-03      56000 D002  MALE
         3 SAI        HR          04-APR-03      61000 D003  FEMALE
         4 SHRADDHA   HR          12-DEC-03      61000 D004  FEMALE
         5 OM         MANAGER     22-DEC-03      99000 D005  MALE
```

Write queries for solving the following:

1. Calculate the square root of the salary of all employees.

Query:

SELECT sqrt(SALARY) FROM EMPLOYEE_21BRS1593;

```
SQL> SELECT sqrt(SALARY) FROM EMPLOYEE_21BRS1593;

SQRT(SALARY)
------------
  178.885438
  236.643191
  246.981781
  246.981781
  314.642654
```

2. Apply any other five numeric built in function to ‘salary’ attribute of employee table

Query:

SELECT POWER(SALARY,2) FROM EMPLOYEE_21BRS1593;

```
SQL> SELECT POWER(SALARY,2) FROM EMPLOYEE_21BRS1593;

POWER(SALARY,2)
---------------
     1024000000
     3136000000
     3721000000
     3721000000
     9801000000
```

SELECT MOD(SALARY,3) FROM EMPLOYEE_21BRS1593;

```
SQL> SELECT MOD(SALARY,3) FROM EMPLOYEE_21BRS1593;

MOD(SALARY,3)
-------------
            2
            2
            1
            1
            0
```

SELECT SALARY,ROUND(SQRT(SALARY),1) FROM EMPLOYEE_21BRS1593;

```
SQL> SELECT SALARY,ROUND(SQRT(SALARY),1) FROM EMPLOYEE_21BRS1593;

    SALARY ROUND(SQRT(SALARY),1)
---------- ----------------------
     32000                  178.9
     56000                  236.6
     61000                    247
     61000                    247
     99000                  314.6
```

SELECT SALARY, TRUNC(SQRT(SALARY),2) FROM EMPLOYEE_21BRS1593;

```
SQL> SELECT SALARY, TRUNC(SQRT(SALARY),2) FROM EMPLOYEE_21BRS1593;

    SALARY TRUNC(SQRT(SALARY),2)
---------- ----------------------
     32000                178.88
     56000                236.64
     61000                246.98
     61000                246.98
     99000                314.64
```

SELECT SIGN(SALARY) FROM EMPLOYEE_21BRS1593;

```
SQL> SELECT SIGN(SALARY) FROM EMPLOYEE_21BRS1593;

SIGN(SALARY)
-------------
           1
           1
           1
           1
           1
```

3. Extract only the first 5 characters of the employee names.

Query:

SELECT SUBSTR(EMPNAME,1,5) FROM EMPLOYEE_21BRS1593;

```
SQL> SELECT SUBSTR(EMPNAME,1,5) FROM EMPLOYEE_21BRS1593;

SUBSTR(EMPNAME,1,5)
--------------------
PRIKS
PRIYA
SAI
SHRAD
OM
```

4. Apply any other five string built in function to ‘name’ attribute of employee table

Query:

SELECT UPPER(EMPNAME) FROM EMPLOYEE_21BRS1593;

```
SQL> SELECT UPPER(EMPNAME) FROM EMPLOYEE_21BRS1593;

UPPER(EMPN
----------
PRIKSHIT
PRIYANSHU
SAI
SHRADDHA
OM
```

SELECT LOWER(EMPNAME) FROM EMPLOYEE_21BRS1593;

```
SQL> SELECT LOWER(EMPNAME) FROM EMPLOYEE_21BRS1593;

LOWER(EMPN
----------
prikshit
priyanshu
sai
shraddha
om
```

SELECT EMPNAME,LENGTH(EMPNAME) AS NAME_LENGTH FROM EMPLOYEE_21BRS1593 WHERE LENGTH(EMPNAME)>3;

```
SQL> SELECT EMPNAME,LENGTH(EMPNAME) AS NAME_LENGTH FROM EMPLOYEE_21BRS1593 WHERE LENGTH(EMPNAME)>3;

EMPNAME    NAME_LENGTH
---------- -----------
PRIKSHIT             8
PRIYANSHU            9
SHRADDHA             8
```

SELECT EMPNAME, INSTR(EMPNAME,'A',1) FROM EMPLOYEE_21BRS1593;

```
SQL> SELECT EMPNAME, INSTR(EMPNAME,'A',1) FROM EMPLOYEE_21BRS1593;

EMPNAME    INSTR(EMPNAME,'A',1)
---------- --------------------
PRIKSHIT                      0
PRIYANSHU                     5
SAI                           2
SHRADDHA                      4
OM                            0
```

SELECT LPAD("EMPNAME",10,'-') FROM EMPLOYEE_21BRS1593;

```
SQL> SELECT LPAD("EMPNAME",5,'-') FROM EMPLOYEE_21BRS1593;

LPAD("EMPNAME",5,'-'
--------------------
PRIKS
PRIYA
--SAI
SHRAD
---OM
```

5. Determine the max and min salary and rename the column as max_salary and min_salary.

Query:

SELECT MAX(SALARY) FROM EMPLOYEE_21BRS1593;

```
SQL> SELECT MAX(SALARY) FROM EMPLOYEE_21BRS1593;

MAX(SALARY)
-----------
      99000
```

SELECT MIN(SALARY) FROM EMPLOYEE_21BRS1593;

```
SQL> SELECT MIN(SALARY) FROM EMPLOYEE_21BRS1593;

MIN(SALARY)
-----------
      32000
```

6. Display the month name of date “14-jul-15” in full.

Query:

SELECT TO_CHAR(TO_DATE('14-Jul-15', 'DD-Mon-RR'), 'Month') AS month_name FROM dual;

```
SQL> SELECT TO_CHAR(TO_DATE('14-Jul-15', 'DD-Mon-RR'), 'Month') AS month_name FROM dual;

MONTH_NAME
-----------------------------------
July
```

7. Display the Dob of all employees in the format “dd-mm-yy”.

Query:

SELECT TO_CHAR(DOB,'DD-MM-YY') AS DOB FROM EMPLOYEE_21BRS1593;

```
SQL> SELECT TO_CHAR(DOB,'DD-MM-YY') AS DOB FROM EMPLOYEE_21BRS1593;

DOB
--------
30-08-03
02-11-03
04-04-03
12-12-03
22-12-03
```

8. Display the date two months after the Dob of employees.

Query:

SELECT Add_months(DOB,2) AS NEW_DOB FROM EMPLOYEE_21BRS1593;

```
SQL> SELECT Add_months(DOB,2) AS NEW_DOB FROM EMPLOYEE_21BRS1593;

NEW_DOB
---------
30-OCT-03
02-JAN-04
04-JUN-03
12-FEB-04
22-FEB-04
```

9. Display the last date of that month in “05-Oct-15”.

Query:

SELECT LAST_DAY('05-OCT-15') AS LAST_DATE FROM DUAL;

```
SQL> SELECT LAST_DAY('05-OCT-15') AS LAST_DATE FROM DUAL;

LAST_DATE
---------
31-OCT-15
```

10. Display the rounded date in the year format, month format, day format

11. Display the date 60 days before current date.

Query:

SELECT CURRENT_DATE - INTERVAL '60' DAY AS NEW_DATE FROM DUAL;

```
SQL> SELECT CURRENT_DATE - INTERVAL '60' DAY AS NEW_DATE FROM DUAL;

NEW_DATE
---------
20-MAR-23
```

12. Display the names and dob of all employees who were born in August.

Query:

SELECT * FROM EMPLOYEE_21BRS1593 WHERE EXTRACT(MONTH FROM DOB)=8;

```
SQL> SELECT * FROM EMPLOYEE_21BRS1593 WHERE EXTRACT(MONTH FROM DOB)=8;

     EMPID EMPNAME    JOB         DOB           SALARY DEPTN GENDER
---------- ---------- ----------- --------- ---------- ----- ------
         1 PRIKSHIT   DIRECTOR    30-AUG-03      32000 D001  MALE
```

13. List out the employee names who will celebrate their birthdays during current month.

Query:

SELECT * FROM EMPLOYEE_21BRS1593 WHERE EXTRACT(MONTH FROM DOB)=EXTRACT(MONTH FROM CURRENT_DATE);

```
SQL> SELECT * FROM EMPLOYEE_21BRS1593 WHERE EXTRACT(MONTH FROM DOB)=EXTRACT(MONTH FROM CURRENT_DATE);

no rows selected
```

14. List all female employees who were born April

Query:

SELECT * FROM EMPLOYEE_21BRS1593 WHERE GENDER='FEMALE' AND EXTRACT(MONTH FROM DOB)=4;

```
SQL> SELECT * FROM EMPLOYEE_21BRS1593 WHERE GENDER='FEMALE' AND EXTRACT(MONTH FROM DOB)=4;

     EMPID EMPNAME    JOB         DOB          SALARY DEPTN GENDER
---------- ---------- ----------- --------- ---------- ----- ------
         3 SAI        HR          04-APR-03      61000 D003  FEMALE
```

15. What is the difference between maximum and minimum salaries of employees in the organization?

Query:

SELECT MAX(SALARY)-MIN(SALARY) FROM EMPLOYEE_21BRS1593;

```
SQL> SELECT MAX(SALARY)-MIN(SALARY) FROM EMPLOYEE_21BRS1593;

MAX(SALARY)-MIN(SALARY)
-----------------------
                  67000
```

16. Display number of employees working in each department and their department name.

Query:

SELECT JOB,COUNT(*) AS EMPLOYEE_COUNT FROM EMPLOYEE_21BRS1593 GROUP BY JOB;

```
SQL> SELECT JOB,COUNT(*) AS EMPLOYEE_COUNT FROM EMPLOYEE_21BRS1593 GROUP BY JOB;

JOB         EMPLOYEE_COUNT
----------- --------------
SR.ENGINEER              1
HR                       2
MANAGER                  1
DIRECTOR                 1
```

17. Display total salary spent for employees.

Query:

SELECT SUM(SALARY) FROM EMPLOYEE_21BRS1593;

```
SQL> SELECT SUM(SALARY) FROM EMPLOYEE_21BRS1593;

SUM(SALARY)
-----------
     309000
```

18. Display total salary spent for each job category.

Query:

SELECT JOB,SUM(SALARY) AS TOTAL_SALARY FROM EMPLOYEE_21BRS1593 GROUP BY JOB;

```
SQL> SELECT JOB,SUM(SALARY) AS TOTAL_SALARY FROM EMPLOYEE_21BRS1593 GROUP BY JOB;

JOB         TOTAL_SALARY
----------- ------------
SR.ENGINEER        56000
HR                122000
MANAGER            99000
DIRECTOR           32000
```

19. Display lowest paid employee details under each manager.

Query:

SELECT E.EMPID,E.EMPNAME,E.JOB,E.DOB,E.SALARY,E.DEPTNO,E.GENDER FROM EMPLOYEE_21BRS1593 E WHERE E.SALARY=(SELECT MIN(SALARY) FROM EMPLOYEE_21BRS1593);

```
SQL> SELECT E.EMPID,E.EMPNAME,E.JOB,E.DOB,E.SALARY,E.DEPTNO,E.GENDER FROM EMPLOYEE_21BRS1593 E WHERE E.SALARY=(SELECT MIN(SALARY) FROM EMPLOYEE_21BRS1593);

     EMPID EMPNAME    JOB         DOB           SALARY DEPTN GENDER
---------- ---------- ----------- --------- ---------- ----- ------
         1 PRIKSHIT   DIRECTOR    30-AUG-03      32000 D001  MALE
```

20. Find how many job titles are available in employee table.

Query:

SELECT COUNT(DISTINCT JOB) FROM EMPLOYEE_21BRS1593;

```
SQL> SELECT COUNT(DISTINCT JOB) FROM EMPLOYEE_21BRS1593;

COUNT(DISTINCTJOB)
------------------
                 4
```