EXPERIMENT 6

Single Row Functions

1. Write a query to display the current date. Label the column Date.

```
SQL> select sysdate from dual;

SYSDATE
---------
09-JUN-24
```

2. The HR department needs a report to display the employee number, last name, salary, and increased by 15.5% (expressed as a whole number) for each employee. Label the column New Salary.

```
SQL> select * from employee;

        ID NAME                 DOJ          SALARY
---------- -------------------- --------- ----------
       101 jack                 07-DEC-94      15655
       102 kay                  05-AUG-96      18500
       103 lisa                 14-OCT-91      25000
       104 ray                  21-NOV-97      11000
       105 alex                 28-SEP-96      16000

SQL> select id,name, salary, salary+0.15*salary as "NEW SALARY" from employee;

        ID NAME                   SALARY NEW SALARY
---------- -------------------- ---------- ----------
       101 jack                    15655   18003.25
       102 kay                     18500      21275
       103 lisa                    25000      28750
       104 ray                     11000      12650
       105 alex                    16000      18400

SQL> select id,name, salary, round(salary+0.15*salary) as "NEW SALARY" from employee;

        ID NAME                   SALARY NEW SALARY
---------- -------------------- ---------- ----------
       101 jack                    15655      18003
       102 kay                     18500      21275
       103 lisa                    25000      28750
       104 ray                     11000      12650
       105 alex                    16000      18400
```

3. Modify your query lab_03_02.sql to add a column that subtracts the old salary from the new salary. Label the column Increase.

```
SQL> alter table employee add increase number;

Table altered.

SQL> select * from employee;

        ID NAME                 DOJ          SALARY   INCREASE
---------- -------------------- --------- ---------- ----------
       101 jack                 07-DEC-94      15655
       102 kay                  05-AUG-96      18500
       103 lisa                 14-OCT-91      25000
       104 ray                  21-NOV-97      11000
       105 alex                 28-SEP-96      16000

SQL> update employee set increase=(salary+0.15*salary)-salary;

5 rows updated.

SQL> select * from employee;

        ID NAME                 DOJ          SALARY   INCREASE
---------- -------------------- --------- ---------- ----------
       101 jack                 07-DEC-94      15655    2348.25
       102 kay                  05-AUG-96      18500       2775
       103 lisa                 14-OCT-91      25000       3750
       104 ray                  21-NOV-97      11000       1650
       105 alex                 28-SEP-96      16000       2400
```

4. Write a query that displays the last name (with the first letter uppercase and all other letters lowercase) and the length of the last name for all employees whose name starts with the letters J, A, or M. Give each column an appropriate label. Sort the results by the employees‘ last names.

```
SQL> select * from employee;

        ID NAME                 DOJ          SALARY   INCREASE
---------- -------------------- --------- ---------- ----------
       101 jack                 07-DEC-94      15655    2348.25
       102 kay                  05-AUG-96      18500       2775
       103 lisa                 14-OCT-91      25000       3750
       104 ray                  21-NOV-97      11000       1650
       105 alex                 28-SEP-96      16000       2400

SQL> select initcap(name) from employee;

INITCAP(NAME)
--------------------
Jack
Kay
Lisa
Ray
Alex

SQL> select initcap(name) as "NEW NAME", length(name) as "LENGTH" from employee where name like 'j%' or name like 'a%' or name like 'm%';

NEW NAME               LENGTH
-------------------- ----------
Jack                          4
Alex                          4
```

5. Rewrite the query so that the user is prompted to enter a letter that starts the last name. For example, if the user enters H when prompted for a letter, then the output should show all employees whose last name starts with the letter H.

```
SQL> select * from employee;

        ID NAME                 DOJ          SALARY   INCREASE
---------- -------------------- --------- ---------- ----------
       101 jack                 07-DEC-94      15655    2348.25
       102 kay                  05-AUG-96      18500       2775
       103 lisa                 14-OCT-91      25000       3750
       104 ray                  21-NOV-97      11000       1650
       105 alex                 28-SEP-96      16000       2400

SQL> ACCEPT start_letter CHAR PROMPT 'Enter the starting letter of the last name: '
Enter the starting letter of the last name: a
SQL> select * from employee where name like '&start_letter%';
old   1: select * from employee where name like '&start_letter%'
new   1: select * from employee where name like 'a%'

        ID NAME                 DOJ          SALARY   INCREASE
---------- -------------------- --------- ---------- ----------
       105 alex                 28-SEP-96      16000       2400
```

6. The HR department wants to find the length of employment for each employee. For each employee, display the last name and calculate the number of months between today and the date on which the employee was hired. Label the column MONTHS_WORKED. Order your results by the number of months employed. Round the number of months up to the closest whole number. Note: Your results will differ.

```
SQL> select * from employee;

        ID NAME                 DOJ          SALARY   INCREASE
---------- -------------------- --------- ---------- ----------
       101 jack                 07-DEC-94      15655    2348.25
       102 kay                  05-AUG-96      18500       2775
       103 lisa                 14-OCT-91      25000       3750
       104 ray                  21-NOV-97      11000       1650
       105 alex                 28-SEP-96      16000       2400

SQL> select name,round(months_between(sysdate,doj)) from employee;

NAME                 ROUND(MONTHS_BETWEEN(SYSDATE,DOJ))
-------------------- ----------------------------------
jack                                               354
kay                                                334
lisa                                               392
ray                                                319
alex                                               332
```

7. Create a report that produces the following for each employee: <employee last name> earns <salary> monthly but wants <3 times salary>. Label the column Dream Salaries.

```
SQL> select * from employee;

        ID NAME                 DOJ           SALARY   INCREASE
---------- -------------------- --------- ---------- ----------
       101 jack                 07-DEC-94      15655    2348.25
       102 kay                  05-AUG-96      18500       2775
       103 lisa                 14-OCT-91      25000       3750
       104 ray                  21-NOV-97      11000       1650
       105 alex                 28-SEP-96      16000       2400

SQL> select name||' earns '||salary||' monthly but wants '||3*salary as "DREAM SALARY" from employee;

DREAM SALARY
--------------------------------------------------------------------------------
jack earns 15655 monthly but wants 46965
kay earns 18500 monthly but wants 55500
lisa earns 25000 monthly but wants 75000
ray earns 11000 monthly but wants 33000
alex earns 16000 monthly but wants 48000
```

8. Create a query to display the last name and salary for all employees. Format the salary to be 15 characters long, left-padded with the $ symbol. Label the column SALARY.

```
SQL> select name, '$'||lpad(salary,14,0) from employee;

NAME                 '$'||LPAD(SALARY,14,0)
-------------------- --------------------------------------------------------------
jack                 $00000000015655
kay                  $00000000018500
lisa                 $00000000025000
ray                  $00000000011000
alex                 $00000000016000

SQL> select name, '$'||lpad(salary,14,' ') from employee;

NAME                 '$'||LPAD(SALARY,14,'')
-------------------- --------------------------------------------------------------
jack                 $         15655
kay                  $         18500
lisa                 $         25000
ray                  $         11000
alex                 $         16000
```

9. Display each employee‘s last name, hire date, and salary review date, which is the first Monday after six months of service. Label the column REVIEW. Format the dates to appear in the format similar to —Monday, the Thirty-First of July, 2000.

```
SQL> select * from employee;

        ID NAME                 DOJ           SALARY   INCREASE
---------- -------------------- --------- ---------- ----------
       101 jack                 07-DEC-94      15655    2348.25
       102 kay                  05-AUG-96      18500       2775
       103 lisa                 14-OCT-91      25000       3750
       104 ray                  21-NOV-97      11000       1650
       105 alex                 28-SEP-96      16000       2400

SQL> select name, to_char(doj,'day",the "dd"th of "month", "yyyy') as hired
from employee;

NAME
--------------------
HIRED
--------------------------------------------------------------------------------
jack
wednesday,the 07th of december , 1994

kay
monday   ,the 05th of august   , 1996

lisa
monday   ,the 14th of october  , 1991


NAME
--------------------
HIRED
--------------------------------------------------------------------------------
ray
friday   ,the 21th of november , 1997

alex
saturday ,the 28th of september, 1996
```

10. Display the last name, hire date, and day of the week on which the employee started. Label the column DAY. Order the results by the day of the week, starting with Monday.

```
SQL> select name,doj from employee;

NAME                 DOJ
-------------------- ---------
jack                 07-DEC-94
kay                  05-AUG-96
lisa                 14-OCT-91
ray                  21-NOV-97
alex                 28-SEP-96

SQL> select name,to_char(doj) from employee;

NAME                 TO_CHAR(DOJ)
-------------------- ------------------
jack                 07-DEC-94
kay                  05-AUG-96
lisa                 14-OCT-91
ray                  21-NOV-97
alex                 28-SEP-96

SQL> select name,to_char(doj,'mm') from employee;

NAME                 TO
-------------------- --
jack                 12
kay                  08
lisa                 10
ray                  11
alex                 09
```

```
SQL> select name,to_char(doj,'dd') from employee;

NAME                 TO
-------------------- --
jack                 07
kay                  05
lisa                 14
ray                  21
alex                 28

SQL> select name,to_char(doj,'yyyy') from employee;

NAME                 TO_C
-------------------- ----
jack                 1994
kay                  1996
lisa                 1991
ray                  1997
alex                 1996

SQL> select name,to_char(doj,'day') from employee;

NAME                 TO_CHAR(DOJ,'DAY')
-------------------- ------------------------------------
jack                 wednesday
kay                  monday
lisa                 monday
ray                  friday
alex                 saturday
```

```
SQL> select name,to_char(doj,'month') from employee;

NAME                 TO_CHAR(DOJ,'MONTH')
-------------------- ------------------------------------
jack                 december
kay                  august
lisa                 october
ray                  november
alex                 september

SQL> select name,to_char(doj,'year') from employee;

NAME                 TO_CHAR(DOJ,'YEAR')
-------------------- ----------------------------------------
jack                 nineteen ninety-four
kay                  nineteen ninety-six
lisa                 nineteen ninety-one
ray                  nineteen ninety-seven
alex                 nineteen ninety-six
```