SkyEss Techno Solutions Pvt. Ltd.
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```
SQL> cl scr

SQL> SET AUTOTRACE On EXPLAIN
SQL> SELECT Empno, Ename, Sal, Job
  2  FROM Emp
  3  WHERE Deptno =
  4   (
  5   SELECT Deptno
  6   FROM Dept
  7   WHERE Dname = 'SALES'
  8   );

    EMPNO ENAME            SAL JOB
---------- ---------- ---------- ---------
      7698 BLAKE           2850 MANAGER
      7654 MARTIN          1250 SALESMAN
      7499 ALLEN           1600 SALESMAN
      7844 TURNER          1500 SALESMAN
      7900 JAMES            950 CLERK
      7521 WARD            1250 SALESMAN

6 rows selected.


Execution Plan
----------------------------------------------------------
Plan hash value: 2858400319

--------------------------------------------------------------------------
--
| Id  | Operation          | Name | Rows  | Bytes | Cost (%CPU)| Time
|
--------------------------------------------------------------------------
--
|   0 | SELECT STATEMENT   |      |     1 |    52 |     6   (0)| 00:00:01
|
|*  1 |  TABLE ACCESS FULL | EMP  |     1 |    52 |     3   (0)| 00:00:01
|
|*  2 |   TABLE ACCESS FULL| DEPT |     1 |    22 |     3   (0)| 00:00:01
|
--------------------------------------------------------------------------
--

Predicate Information (identified by operation id):
---------------------------------------------------
```

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```
   1 - filter("DEPTNO"= (SELECT "DEPTNO" FROM "DEPT" "DEPT" WHERE
              "DNAME"='SALES'))
   2 - filter("DNAME"='SALES')

Note
-----
   - dynamic sampling used for this statement (level=2)

SQL> SELECT Deptno FROM Dept WHERE Dname = 'SALES';

    DEPTNO
----------
        30


Execution Plan
----------------------------------------------------------
Plan hash value: 3383998547

---------------------------------------------------------------------
-
| Id  | Operation          | Name | Rows  | Bytes | Cost (%CPU)| Time
|
---------------------------------------------------------------------
-
|   0 | SELECT STATEMENT   |      |     1 |    22 |     3   (0)| 00:00:01
|
|*  1 |  TABLE ACCESS FULL| DEPT |     1 |    22 |     3   (0)| 00:00:01
|
---------------------------------------------------------------------
-

Predicate Information (identified by operation id):
---------------------------------------------------

   1 - filter("DNAME"='SALES')

Note
-----
   - dynamic sampling used for this statement (level=2)

SQL> ED
Wrote file afiedt.buf

  1   SELECT Empno, Ename, Sal, Job, Deptno
  2   FROM Emp
  3   WHERE Deptno =
```

```
    4      (
    5      SELECT Deptno
    6      FROM Dept
    7      WHERE Dname = 'SALES'
    8*     );
SQL> /
    );
    *
ERROR at line 8:
ORA-00911: invalid character


SQL> ED
Wrote file afiedt.buf

    1   SELECT Empno, Ename, Sal, Job, Deptno
    2   FROM Emp
    3   WHERE Deptno =
    4      (
    5      SELECT Deptno
    6      FROM Dept
    7      WHERE Dname = 'SALES'
    8*     )
SQL> /

     EMPNO ENAME            SAL JOB          DEPTNO
---------- ---------- ---------- -------- ----------
      7698 BLAKE           2850 MANAGER          30
      7654 MARTIN          1250 SALESMAN         30
      7499 ALLEN           1600 SALESMAN         30
      7844 TURNER          1500 SALESMAN         30
      7900 JAMES            950 CLERK            30
      7521 WARD            1250 SALESMAN         30

6 rows selected.


Execution Plan
----------------------------------------------------------
Plan hash value: 2858400319

-----------------------------------------------------------------------
--
| Id  | Operation         | Name | Rows  | Bytes | Cost (%CPU)| Time
|
-----------------------------------------------------------------------
--
```

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....

```
|   0 |  SELECT STATEMENT   |      |    1 |    52 |     6  (0)| 00:00:01
|
|*  1 |   TABLE ACCESS FULL | EMP  |    1 |    52 |     3  (0)| 00:00:01
|
|*  2 |   TABLE ACCESS FULL| DEPT |    1 |    22 |     3  (0)| 00:00:01
|
--------------------------------------------------------------------------
--

Predicate Information (identified by operation id):
---------------------------------------------------

   1 - filter("DEPTNO"= (SELECT "DEPTNO" FROM "DEPT" "DEPT" WHERE
            "DNAME"='SALES'))
   2 - filter("DNAME"='SALES')

Note
-----
   - dynamic sampling used for this statement (level=2)

SQL> ED
Wrote file afiedt.buf

  1   SELECT Empno, Ename, Sal, Job
  2   FROM Emp
  3   WHERE Deptno =
  4      (
  5       SELECT Deptno
  6       FROM Dept
  7       WHERE Dname = 'SALES'
  8*     )
SQL> cl scr

SQL> R
  1   SELECT Empno, Ename, Sal, Job
  2   FROM Emp
  3   WHERE Deptno =
  4      (
  5       SELECT Deptno
  6       FROM Dept
  7       WHERE Dname = 'SALES'
  8*     )

    EMPNO ENAME           SAL JOB
---------- ---------- ---------- ---------
     7698 BLAKE          2850 MANAGER
     7654 MARTIN         1250 SALESMAN
```

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```
       7499 ALLEN              1600 SALESMAN
       7844 TURNER             1500 SALESMAN
       7900 JAMES               950 CLERK
       7521 WARD               1250 SALESMAN

6 rows selected.


Execution Plan
----------------------------------------------------------
Plan hash value: 2858400319


--------------------------------------------------------------------
--
| Id  | Operation           | Name | Rows  | Bytes | Cost (%CPU)| Time
|
--------------------------------------------------------------------
--
|   0 | SELECT STATEMENT    |      |     1 |    52 |     6   (0)| 00:00:01
|
|*  1 |   TABLE ACCESS FULL | EMP  |     1 |    52 |     3   (0)| 00:00:01
|
|*  2 |    TABLE ACCESS FULL| DEPT |     1 |    22 |     3   (0)| 00:00:01
|
--------------------------------------------------------------------
--


Predicate Information (identified by operation id):
---------------------------------------------------

   1 - filter("DEPTNO"= (SELECT "DEPTNO" FROM "DEPT" "DEPT" WHERE
               "DNAME"='SALES'))
   2 - filter("DNAME"='SALES')

Note
-----
   - dynamic sampling used for this statement (level=2)

SQL> ED
Wrote file afiedt.buf

  1   SELECT Empno, Ename, Sal, Job
  2   FROM Emp, Dept
  3   WHERE Emp.Deptno = Dept.Deptno
  4*  AND Dname = 'SALES'
SQL> /
```

```
     EMPNO ENAME            SAL JOB
---------- ---------- ---------- ---------
      7698 BLAKE           2850 MANAGER
      7654 MARTIN          1250 SALESMAN
      7499 ALLEN           1600 SALESMAN
      7844 TURNER          1500 SALESMAN
      7900 JAMES            950 CLERK
      7521 WARD            1250 SALESMAN

6 rows selected.


Execution Plan
----------------------------------------------------------
Plan hash value: 615168685

-----------------------------------------------------------------------
--
| Id  | Operation            | Name | Rows  | Bytes | Cost (%CPU)| Time
|
-----------------------------------------------------------------------
--
|   0 | SELECT STATEMENT     |      |     5 |   370 |     7  (15)| 00:00:01
|
|*  1 |  HASH JOIN           |      |     5 |   370 |     7  (15)| 00:00:01
|
|*  2 |   TABLE ACCESS FULL| DEPT |     1 |    22 |     3   (0)| 00:00:01
|
|   3 |   TABLE ACCESS FULL| EMP  |    14 |   728 |     3   (0)| 00:00:01
|
-----------------------------------------------------------------------
--

Predicate Information (identified by operation id):
---------------------------------------------------

   1 - access("EMP"."DEPTNO"="DEPT"."DEPTNO")
   2 - filter("DNAME"='SALES')

Note
-----
   - dynamic sampling used for this statement (level=2)

SQL> ED
Wrote file afiedt.buf

  1  SELECT Empno, Ename, Sal, Job, Dname, Loc
```

```
  2   FROM Emp, Dept
  3   WHERE Emp.Deptno = Dept.Deptno
  4* AND Dname = 'SALES'
SQL> /

     EMPNO ENAME             SAL JOB       DNAME          LOC
---------- ---------- ---------- --------- -------------- -------------
      7698 BLAKE            2850 MANAGER   SALES          CHICAGO
      7654 MARTIN           1250 SALESMAN  SALES          CHICAGO
      7499 ALLEN            1600 SALESMAN  SALES          CHICAGO
      7844 TURNER           1500 SALESMAN  SALES          CHICAGO
      7900 JAMES             950 CLERK     SALES          CHICAGO
      7521 WARD             1250 SALESMAN  SALES          CHICAGO

6 rows selected.


Execution Plan
----------------------------------------------------------
Plan hash value: 615168685

--------------------------------------------------------------------------
--
| Id  | Operation          | Name | Rows  | Bytes | Cost (%CPU)| Time
|
--------------------------------------------------------------------------
--
|   0 | SELECT STATEMENT   |      |     5 |   410 |     7  (15)| 00:00:01
|
|*  1 |  HASH JOIN         |      |     5 |   410 |     7  (15)| 00:00:01
|
|*  2 |   TABLE ACCESS FULL| DEPT |     1 |    30 |     3   (0)| 00:00:01
|
|   3 |   TABLE ACCESS FULL| EMP  |    14 |   728 |     3   (0)| 00:00:01
|
--------------------------------------------------------------------------
--

Predicate Information (identified by operation id):
---------------------------------------------------

   1 - access("EMP"."DEPTNO"="DEPT"."DEPTNO")
   2 - filter("DNAME"='SALES')

Note
-----
   - dynamic sampling used for this statement (level=2)
```

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```
SQL> cl scr

SQL> SELECT MAX(Sal) SalMAX
  2  FROM Emp;

    SALMAX
----------
      5000


Execution Plan
----------------------------------------------------------
Plan hash value: 2083865914

--------------------------------------------------------------------
--
| Id  | Operation          | Name | Rows  | Bytes | Cost (%CPU)| Time
|
--------------------------------------------------------------------
--
|   0 | SELECT STATEMENT   |      |     1 |    13 |     3   (0)| 00:00:01
|
|   1 |  SORT AGGREGATE    |      |     1 |    13 |            |
|
|   2 |   TABLE ACCESS FULL| EMP  |    14 |   182 |     3   (0)| 00:00:01
|
--------------------------------------------------------------------
--

Note
-----
   - dynamic sampling used for this statement (level=2)

SQL> ED
Wrote file afiedt.buf

  1  SELECT Ename, Deptno, Job, MAX(Sal) SalMAX
  2* FROM Emp
SQL> /
SELECT Ename, Deptno, Job, MAX(Sal) SalMAX
       *
ERROR at line 1:
ORA-00937: not a single-group group function


SQL> ED
```

```
Wrote file afiedt.buf

  1   SELECT Ename, Deptno, Job, MAX(Sal) SalMAX
  2   FROM Emp
  3*  GROUP BY Ename, Deptno, Job
SQL> /

ENAME           DEPTNO JOB           SALMAX
---------- ---------- --------- ----------
CLARK              10 MANAGER         2450
JAMES              30 CLERK            950
FORD               20 ANALYST         3000
SCOTT              20 ANALYST         3000
MARTIN             30 SALESMAN        1250
ADAMS              20 CLERK           1100
MILLER             10 CLERK           1300
KING               10 PRESIDENT       5000
JONES              20 MANAGER         2975
BLAKE              30 MANAGER         2850
SMITH              20 CLERK            800
WARD               30 SALESMAN        1250
ALLEN              30 SALESMAN        1600
TURNER             30 SALESMAN        1500

14 rows selected.


Execution Plan
----------------------------------------------------------
Plan hash value: 4067220884

------------------------------------------------------------------------
--
| Id  | Operation          | Name | Rows  | Bytes | Cost (%CPU)| Time
|
------------------------------------------------------------------------
--
|   0 | SELECT STATEMENT   |      |    14 |   546 |     4  (25)| 00:00:01
|
|   1 |  HASH GROUP BY     |      |    14 |   546 |     4  (25)| 00:00:01
|
|   2 |   TABLE ACCESS FULL| EMP  |    14 |   546 |     3   (0)| 00:00:01
|
------------------------------------------------------------------------
--

Note
```

```
-----
    - dynamic sampling used for this statement (level=2)

SQL> cl scr

SQL> ED
Wrote file afiedt.buf

  1   SELECT Ename, Deptno, Job
  2   FROM Emp
  3   WHERE Sal =
  4    (
  5    SELECT MAX(Sal)
  6    FROM Emp
  7*   )
SQL> /

ENAME           DEPTNO JOB
---------- ---------- ---------
KING                10 PRESIDENT


Execution Plan
----------------------------------------------------------
Plan hash value: 1876299339

-----------------------------------------------------------------------
---
| Id  | Operation           | Name | Rows  | Bytes | Cost (%CPU)| Time
|
-----------------------------------------------------------------------
---
|   0 | SELECT STATEMENT    |      |     1 |    39 |     6   (0)|
00:00:01 |
|*  1 |  TABLE ACCESS FULL  | EMP  |     1 |    39 |     3   (0)|
00:00:01 |
|   2 |   SORT AGGREGATE    |      |     1 |    13 |            |
|
|   3 |    TABLE ACCESS FULL| EMP  |    14 |   182 |     3   (0)|
00:00:01 |
-----------------------------------------------------------------------
---

Predicate Information (identified by operation id):
---------------------------------------------------

   1 - filter("SAL"= (SELECT MAX("SAL") FROM "EMP" "EMP"))
```

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```
Note
-----
   - dynamic sampling used for this statement (level=2)

SQL> SELECT MAX(Sal)
  2  FROM Emp;

  MAX(SAL)
----------
      5000


Execution Plan
----------------------------------------------------------
Plan hash value: 2083865914

---------------------------------------------------------------------
--
| Id  | Operation           | Name | Rows  | Bytes | Cost (%CPU)| Time
|
---------------------------------------------------------------------
--
|   0 | SELECT STATEMENT    |      |     1 |    13 |     3   (0)| 00:00:01
|
|   1 |  SORT AGGREGATE     |      |     1 |    13 |            |
|
|   2 |   TABLE ACCESS FULL| EMP  |    14 |   182 |     3   (0)| 00:00:01
|
---------------------------------------------------------------------
--

Note
-----
   - dynamic sampling used for this statement (level=2)

SQL> SELECT Ename, Job, Sal
  2  FROM Emp
  3  WHERE Sal =
  4  (
  5   SELECT MIN(Sal)
  6   FROM Emp
  7  );

ENAME      JOB            SAL
---------- --------- ----------
SMITH      CLERK          800
```

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```
Execution Plan
------------------------------------------------------------
Plan hash value: 1876299339

------------------------------------------------------------------------
---
| Id  | Operation           | Name | Rows  | Bytes | Cost (%CPU)| Time
|
------------------------------------------------------------------------
---
|   0 | SELECT STATEMENT    |      |     1 |    26 |     6   (0)|
00:00:01 |
|*  1 |  TABLE ACCESS FULL  | EMP  |     1 |    26 |     3   (0)|
00:00:01 |
|   2 |   SORT AGGREGATE    |      |     1 |    13 |            |
|
|   3 |    TABLE ACCESS FULL| EMP  |    14 |   182 |     3   (0)|
00:00:01 |
------------------------------------------------------------------------
---

Predicate Information (identified by operation id):
---------------------------------------------------

   1 - filter("SAL"= (SELECT MIN("SAL") FROM "EMP" "EMP"))

Note
-----
   - dynamic sampling used for this statement (level=2)

SQL> SELECT Ename, Job, Sal
  2  FROM Emp
  3  WHERE Sal >
  4  (
  5   SELECT AVG(Sal)
  6   FROM Emp
  7  );

ENAME      JOB            SAL
---------- --------- ----------
KING       PRESIDENT     5000
BLAKE      MANAGER       2850
CLARK      MANAGER       2450
JONES      MANAGER       2975
FORD       ANALYST       3000
```

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```
SCOTT       ANALYST            3000

6 rows selected.


Execution Plan
----------------------------------------------------------
Plan hash value: 1876299339

-------------------------------------------------------------------------
---
| Id  | Operation             | Name | Rows  | Bytes | Cost (%CPU)| Time
|
-------------------------------------------------------------------------
---
|   0 | SELECT STATEMENT      |      |     1 |    26 |     6   (0)|
00:00:01 |
|*  1 |   TABLE ACCESS FULL   | EMP  |     1 |    26 |     3   (0)|
00:00:01 |
|   2 |    SORT AGGREGATE     |      |     1 |    13 |            |
|
|   3 |     TABLE ACCESS FULL | EMP  |    14 |   182 |     3   (0)|
00:00:01 |
-------------------------------------------------------------------------
---

Predicate Information (identified by operation id):
---------------------------------------------------

   1 - filter("SAL"> (SELECT AVG("SAL") FROM "EMP" "EMP"))

Note
-----
   - dynamic sampling used for this statement (level=2)

SQL> SELECT AVG(Sal)
  2  FROM Emp;

  AVG(SAL)
----------
2073.21429


Execution Plan
----------------------------------------------------------
Plan hash value: 2083865914
```

```
----------------------------------------------------------------------
--
| Id | Operation           | Name | Rows  | Bytes | Cost (%CPU)| Time
|
----------------------------------------------------------------------
--
|   0 | SELECT STATEMENT   |      |    1 |   13 |    3   (0)| 00:00:01
|
|   1 |  SORT AGGREGATE    |      |    1 |   13 |           |
|
|   2 |   TABLE ACCESS FULL| EMP  |   14 |  182 |    3   (0)| 00:00:01
|
----------------------------------------------------------------------
--

Note
-----
   - dynamic sampling used for this statement (level=2)

SQL> ED
Wrote file afiedt.buf

  1   SELECT Ename, Job, Sal
  2   FROM Emp
  3   WHERE Sal <
  4       (
  5       SELECT AVG(Sal)
  6       FROM Emp
  7*      )
SQL> /

ENAME        JOB            SAL
---------- --------- ----------
MARTIN       SALESMAN      1250
ALLEN        SALESMAN      1600
TURNER       SALESMAN      1500
JAMES        CLERK          950
WARD         SALESMAN      1250
SMITH        CLERK          800
ADAMS        CLERK         1100
MILLER       CLERK         1300

8 rows selected.


Execution Plan
----------------------------------------------------------
```

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```
Plan hash value: 1876299339

--------------------------------------------------------------------------
---
| Id  | Operation            | Name | Rows  | Bytes | Cost (%CPU)| Time
|
--------------------------------------------------------------------------
---
|   0 | SELECT STATEMENT     |      |     1 |    26 |     6   (0)|
00:00:01 |
|*  1 |  TABLE ACCESS FULL   | EMP  |     1 |    26 |     3   (0)|
00:00:01 |
|   2 |   SORT AGGREGATE     |      |     1 |    13 |            |
|
|   3 |    TABLE ACCESS FULL | EMP  |    14 |   182 |     3   (0)|
00:00:01 |
--------------------------------------------------------------------------
---

Predicate Information (identified by operation id):
---------------------------------------------------

   1 - filter("SAL"< (SELECT AVG("SAL") FROM "EMP" "EMP"))

Note
-----
   - dynamic sampling used for this statement (level=2)

SQL> SPOOL OFF
```

Announcing A New Batch For

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(Covering In-Depth Syllabus With Industry Oriented Focus)

By

S a t h i s h   Y e l l a n k i

Date : 2nd May, 2018	Time: 4 PM To 5 PM

For Enquiries And Registrations Contact

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