```
SQL> cl scr

SQL> SELECT Empno, Ename, Deptno, Sal, Job, HireDate
  2  FROM Emp;

     EMPNO ENAME          DEPTNO        SAL JOB       HIREDATE
---------- ---------- ---------- ---------- --------- ---------
      7839 KING               10       5000 PRESIDENT 17-NOV-81
      7698 BLAKE              30       2850 MANAGER   01-MAY-81
      7782 CLARK              10       2450 MANAGER   09-JUN-81
      7566 JONES              20       2975 MANAGER   02-APR-81
      7654 MARTIN             30       1250 SALESMAN  28-SEP-81
      7499 ALLEN              30       1600 SALESMAN  20-FEB-81
      7844 TURNER             30       1500 SALESMAN  08-SEP-81
      7900 JAMES              30        950 CLERK     03-DEC-81
      7521 WARD               30       1250 SALESMAN  22-FEB-81
      7902 FORD               20       3000 ANALYST   03-DEC-81
      7369 SMITH              20        800 CLERK     17-DEC-80
      7788 SCOTT              20       3000 ANALYST   09-DEC-82
      7876 ADAMS              20       1100 CLERK     12-JAN-83
      7934 MILLER             10       1300 CLERK     23-JAN-82

14 rows selected.

SQL> CREATE INDEX EmpEmpnoIDX
  2  ON Emp(Empno);
ON Emp(Empno)
      *
ERROR at line 2:
ORA-01408: such column list already indexed


SQL> ED
Wrote file afiedt.buf

  1  SELECT Empno, Ename, Deptno, Sal, Job, HireDate
  2  FROM Emp
  3* WHERE Empno = 7654
SQL> /

     EMPNO ENAME          DEPTNO        SAL JOB       HIREDATE
---------- ---------- ---------- ---------- --------- ---------
      7654 MARTIN             30       1250 SALESMAN  28-SEP-81

SQL> SET AUTOTRACE ON EXPLAIN
SQL> SELECT Empno, Ename, Deptno, Sal, Job, HireDate
  2  FROM Emp;
```

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

```
     EMPNO ENAME          DEPTNO        SAL JOB       HIREDATE
---------- ---------- ---------- ---------- --------- ---------
      7839 KING               10       5000 PRESIDENT 17-NOV-81
      7698 BLAKE              30       2850 MANAGER   01-MAY-81
      7782 CLARK              10       2450 MANAGER   09-JUN-81
      7566 JONES              20       2975 MANAGER   02-APR-81
      7654 MARTIN             30       1250 SALESMAN  28-SEP-81
      7499 ALLEN              30       1600 SALESMAN  20-FEB-81
      7844 TURNER             30       1500 SALESMAN  08-SEP-81
      7900 JAMES              30        950 CLERK     03-DEC-81
      7521 WARD               30       1250 SALESMAN  22-FEB-81
      7902 FORD               20       3000 ANALYST   03-DEC-81
      7369 SMITH              20        800 CLERK     17-DEC-80
      7788 SCOTT              20       3000 ANALYST   09-DEC-82
      7876 ADAMS              20       1100 CLERK     12-JAN-83
      7934 MILLER             10       1300 CLERK     23-JAN-82

14 rows selected.


Execution Plan
----------------------------------------------------------
Plan hash value: 3956160932

---------------------------------------------------------------------------
| Id  | Operation         | Name | Rows  | Bytes | Cost (%CPU)| Time      |
---------------------------------------------------------------------------
|   0 | SELECT STATEMENT  |      |    14 |   854 |     3   (0)| 00:00:01  |
|   1 |  TABLE ACCESS FULL| EMP  |    14 |   854 |     3   (0)| 00:00:01  |
---------------------------------------------------------------------------

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

SQL> SELECT Empno, Ename, Deptno, Sal, Job, HireDate
  2  FROM Emp
  3  WHERE Empno = 7654;

     EMPNO ENAME          DEPTNO        SAL JOB       HIREDATE
```

-----------------------------------------------------------------------------------
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```
---------- ---------- ---------- ---------- -------- ---------
      7654 MARTIN             30       1250 SALESMAN 28-SEP-81


Execution Plan
----------------------------------------------------------
Plan hash value: 2650221029

--------------------------------------------------------------------------
----------------------
| Id  | Operation                    | Name            | Rows  | Bytes |
Cost (%CPU)| Time     |
--------------------------------------------------------------------------
----------------------
|   0 | SELECT STATEMENT             |                 |     1 |    61 |
2   (0)| 00:00:01 |
|   1 |  TABLE ACCESS BY INDEX ROWID| EMP             |     1 |    61 |
2   (0)| 00:00:01 |
|*  2 |   INDEX UNIQUE SCAN          | EMP_PRIMARY_KEY |     1 |       |
1   (0)| 00:00:01 |
--------------------------------------------------------------------------
----------------------

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

   2 - access("EMPNO"=7654)

SQL> ED
Wrote file afiedt.buf

  1   SELECT Empno, Ename, Deptno, Sal, Job, HireDate
  2   FROM Emp
  3*  WHERE Empno != 7654
SQL> /

     EMPNO ENAME          DEPTNO        SAL JOB      HIREDATE
---------- ---------- ---------- ---------- -------- ---------
      7839 KING               10       5000 PRESIDENT 17-NOV-81
      7698 BLAKE              30       2850 MANAGER   01-MAY-81
      7782 CLARK              10       2450 MANAGER   09-JUN-81
      7566 JONES              20       2975 MANAGER   02-APR-81
      7499 ALLEN              30       1600 SALESMAN  20-FEB-81
      7844 TURNER             30       1500 SALESMAN  08-SEP-81
      7900 JAMES              30        950 CLERK     03-DEC-81
      7521 WARD               30       1250 SALESMAN  22-FEB-81
      7902 FORD               20       3000 ANALYST   03-DEC-81
```

**-------------------------------------------------------------------------------**

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```
        7369 SMITH              20         800 CLERK      17-DEC-80
        7788 SCOTT              20        3000 ANALYST    09-DEC-82
        7876 ADAMS              20        1100 CLERK      12-JAN-83
        7934 MILLER             10        1300 CLERK      23-JAN-82

13 rows selected.


Execution Plan
----------------------------------------------------------
Plan hash value: 3956160932

-----------------------------------------------------------------------
-
| Id  | Operation          | Name | Rows  | Bytes | Cost (%CPU)| Time
|
-----------------------------------------------------------------------
-
|   0 | SELECT STATEMENT   |      |    13 |   793 |     3   (0)| 00:00:01
|
|*  1 |  TABLE ACCESS FULL | EMP  |    13 |   793 |     3   (0)| 00:00:01
|
-----------------------------------------------------------------------
-

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

   1 - filter("EMPNO"<>7654)

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

SQL> ED
Wrote file afiedt.buf

  1  SELECT Empno, Ename, Deptno, Sal, Job, HireDate
  2  FROM Emp
  3* WHERE Empno = 7654
SQL> /

    EMPNO ENAME          DEPTNO        SAL JOB       HIREDATE
---------- ---------- ---------- ---------- --------- ---------
     7654 MARTIN             30       1250 SALESMAN  28-SEP-81
```

**-------------------------------------------------------------------------------**

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```
Execution Plan
----------------------------------------------------------
Plan hash value: 2650221029

---------------------------------------------------------------------------
----------------------
| Id  | Operation                    | Name            | Rows  | Bytes |
Cost (%CPU)| Time      |
---------------------------------------------------------------------------
----------------------
|   0 | SELECT STATEMENT             |                 |     1 |    61 |
2   (0)| 00:00:01 |
|   1 |  TABLE ACCESS BY INDEX ROWID| EMP              |     1 |    61 |
2   (0)| 00:00:01 |
|*  2 |   INDEX UNIQUE SCAN          | EMP_PRIMARY_KEY |     1 |       |
1   (0)| 00:00:01 |
---------------------------------------------------------------------------
----------------------

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

   2 - access("EMPNO"=7654)

SQL> ED
Wrote file afiedt.buf

  1  SELECT Empno, Ename, Deptno, Sal, Job, HireDate
  2  FROM Emp
  3* WHERE Empno > 7654
SQL> /

     EMPNO ENAME          DEPTNO        SAL JOB       HIREDATE
---------- ---------- ---------- ---------- --------- ---------
      7839 KING               10       5000 PRESIDENT 17-NOV-81
      7698 BLAKE              30       2850 MANAGER   01-MAY-81
      7782 CLARK              10       2450 MANAGER   09-JUN-81
      7844 TURNER             30       1500 SALESMAN  08-SEP-81
      7900 JAMES              30        950 CLERK     03-DEC-81
      7902 FORD               20       3000 ANALYST   03-DEC-81
      7788 SCOTT              20       3000 ANALYST   09-DEC-82
      7876 ADAMS              20       1100 CLERK     12-JAN-83
      7934 MILLER             10       1300 CLERK     23-JAN-82

9 rows selected.
```

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```
Execution Plan
----------------------------------------------------------
Plan hash value: 3956160932

---------------------------------------------------------------------------
| Id  | Operation          | Name | Rows  | Bytes | Cost (%CPU)| Time     |
---------------------------------------------------------------------------
|   0 | SELECT STATEMENT   |      |     9 |   549 |     3   (0)| 00:00:01 |
|*  1 |  TABLE ACCESS FULL | EMP  |     9 |   549 |     3   (0)| 00:00:01 |
---------------------------------------------------------------------------

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

   1 - filter("EMPNO">7654)

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

SQL> cl scr

SQL> ED
Wrote file afiedt.buf

  1  SELECT Empno, Ename, Deptno, Sal, Job, HireDate
  2  FROM Emp
  3* WHERE Ename = 'JONES'
SQL> /

    EMPNO ENAME          DEPTNO        SAL JOB       HIREDATE
--------- ------------- ---------- ---------- --------- ---------
     7566 JONES             20       2975 MANAGER   02-APR-81


Execution Plan
----------------------------------------------------------
Plan hash value: 3956160932

---------------------------------------------------------------------------
```

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```
| Id  | Operation          | Name | Rows  | Bytes | Cost (%CPU)| Time     |
-------------------------------------------------------------------------
| 0 | SELECT STATEMENT     |      |   1 |   61 |    3   (0)| 00:00:01 |
|* 1 |   TABLE ACCESS FULL| EMP  |   1 |   61 |    3   (0)| 00:00:01 |
-------------------------------------------------------------------------

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

   1 - filter("ENAME"='JONES' AND UPPER("ENAME")='JONES')

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

SQL> CREATE INDEX EmpEnameIDX
  2  ON Emp(Ename);

Index created.

SQL> SELECT Empno, Ename, Deptno, Sal, Job, HireDate
  2  FROM Emp
  3  WHERE Ename = 'JONES';

    EMPNO ENAME          DEPTNO        SAL JOB       HIREDATE
---------- ---------- ---------- ---------- --------- ---------
     7566 JONES           20       2975 MANAGER   02-APR-81


Execution Plan
----------------------------------------------------------
Plan hash value: 777873844

---------------------------------------------------------------------------
------------------
| Id  | Operation                  | Name      | Rows  | Bytes | Cost
(%CPU)| Time      |
---------------------------------------------------------------------------
------------------
| 0 | SELECT STATEMENT             |           |   1 |   61 |    2
(0)| 00:00:01 |
```

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

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```
|   1 |   TABLE ACCESS BY INDEX ROWID| EMP          |      1 |    61 |      2
(0)| 00:00:01 |
|*  2 |    INDEX RANGE SCAN          | EMPENAMEIDX  |      1 |       |      1
(0)| 00:00:01 |
---------------------------------------------------------------------------
------------------

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

   2 - access("ENAME"='JONES')
       filter(UPPER("ENAME")='JONES')

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

SQL> ED
Wrote file afiedt.buf

  1  SELECT Empno, Ename, Deptno, Sal, Job, HireDate
  2  FROM Emp
  3* WHERE Ename > 'JONES'
SQL> /

    EMPNO ENAME          DEPTNO       SAL JOB       HIREDATE
---------- ---------- ---------- ---------- --------- ---------
      7839 KING           10       5000 PRESIDENT 17-NOV-81
      7654 MARTIN         30       1250 SALESMAN  28-SEP-81
      7934 MILLER         10       1300 CLERK     23-JAN-82
      7788 SCOTT          20       3000 ANALYST   09-DEC-82
      7369 SMITH          20        800 CLERK     17-DEC-80
      7844 TURNER         30       1500 SALESMAN  08-SEP-81
      7521 WARD           30       1250 SALESMAN  22-FEB-81

7 rows selected.


Execution Plan
----------------------------------------------------------
Plan hash value: 777873844


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

---

```
--------------------------------------------------------------------------
------------------
|   0 | SELECT STATEMENT          |             |   7 |   427 |     2
(0)| 00:00:01 |
|   1 |  TABLE ACCESS BY INDEX ROWID| EMP       |   7 |   427 |     2
(0)| 00:00:01 |
|*  2 |   INDEX RANGE SCAN        | EMPENAMEIDX |   7 |       |     1
(0)| 00:00:01 |
--------------------------------------------------------------------------
------------------

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

   2 - access("ENAME">'JONES')
       filter(UPPER("ENAME")>'JONES')

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

SQL> cl scr

SQL> CREATE INDEX EmpEmpnoEname
  2  ON Emp(Empno, Ename);

Index created.

SQL> SELECT Empno, Ename, Deptno, Sal, Job, HireDate
  2  FROM Emp
  3  WHERE Empno = 7566;

     EMPNO ENAME          DEPTNO       SAL JOB        HIREDATE
---------- ---------- ---------- ---------- --------- ---------
      7566 JONES            20       2975 MANAGER    02-APR-81


Execution Plan
----------------------------------------------------------
Plan hash value: 3546942290

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


--------------------------------------------------------------------------
```

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```
|   0 | SELECT STATEMENT            |                |     4 |   244 |
2   (0)| 00:00:01 |
|   1 |  TABLE ACCESS BY INDEX ROWID| EMP           |     4 |   244 |
2   (0)| 00:00:01 |
|*  2 |   INDEX RANGE SCAN          | EMPEMPNOENAME |     2 |       |
1   (0)| 00:00:01 |
----------------------------------------------------------------------
--------------------

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

   2 - access("EMPNO"=7566)
```

```
SQL> SELECT Empno, Ename, Deptno, Sal, Job, HireDate
  2  FROM Emp
  3  WHERE Ename = 'JONES';

     EMPNO ENAME          DEPTNO        SAL JOB       HIREDATE
---------- ---------- ---------- ---------- --------- ---------
      7566 JONES              20       2975 MANAGER   02-APR-81
```

Execution Plan
----------------------------------------------------------
Plan hash value: 777873844

```
----------------------------------------------------------------------
------------------
| Id  | Operation                   | Name          | Rows  | Bytes | Cost
(%CPU)| Time     |
----------------------------------------------------------------------
------------------
|   0 | SELECT STATEMENT            |                |     1 |    61 |     2
(0)| 00:00:01 |
|   1 |  TABLE ACCESS BY INDEX ROWID| EMP           |     1 |    61 |     2
(0)| 00:00:01 |
|*  2 |   INDEX RANGE SCAN          | EMPENAMEIDX   |     1 |       |     1
(0)| 00:00:01 |
----------------------------------------------------------------------
------------------

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

   2 - access("ENAME"='JONES')
       filter(UPPER("ENAME")='JONES')
```

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

SQL> cl scr

SQL> DROP INDEX EmpEmpnoEname;

Index dropped.

SQL> DROP INDEX EmpEnameIDX;

Index dropped.

SQL> cl scr

SQL> CREATE UNIQUE INDEX
  2  EmpEnameIDXUNQ
  3  ON Emp(Ename);

Index created.

SQL> INSERT INTO Emp(Empno, Ename, Deptno, Sal)
  2  VALUES(7935, 'SMITH', 20, 2000);
INSERT INTO Emp(Empno, Ename, Deptno, Sal)
*
ERROR at line 1:
ORA-00001: unique constraint (SCOTT.EMPENAMEIDXUNQ) violated


SQL> DROP INDEX EmpEnameIDXUNQ;

Index dropped.

SQL> cl scr

SQL> CREATE UNIQUE INDEX EmpDeptnoUNQIDX
  2  ON Emp(Deptno);
ON Emp(Deptno)
   *
ERROR at line 2:
ORA-01452: cannot CREATE UNIQUE INDEX; duplicate keys found


SQL> cl scr
```

```
SQL> SELECT ROWID, E1.*
  2  FROM Emp E1;

ROWID                   EMPNO ENAME      JOB            MGR HIREDATE
SAL        COMM     DEPTNO
------------------ ---------- ---------- --------- ---------- --------- -
--------- ---------- ----------
AAASX9AAEAAAAE8AAA        7839 KING       PRESIDENT            17-NOV-81
5000                 10
AAASX9AAEAAAAE8AAB        7698 BLAKE      MANAGER         7839 01-MAY-81
2850                 30
AAASX9AAEAAAAE8AAC        7782 CLARK      MANAGER         7839 09-JUN-81
2450                 10
AAASX9AAEAAAAE8AAD        7566 JONES      MANAGER         7839 02-APR-81
2975                 20
AAASX9AAEAAAAE8AAE        7654 MARTIN     SALESMAN        7698 28-SEP-81
1250       1400      30
AAASX9AAEAAAAE8AAF        7499 ALLEN      SALESMAN        7698 20-FEB-81
1600        300      30
AAASX9AAEAAAAE8AAG        7844 TURNER     SALESMAN        7698 08-SEP-81
1500          0      30
AAASX9AAEAAAAE8AAH        7900 JAMES      CLERK           7698 03-DEC-81
950                  30
AAASX9AAEAAAAE8AAI        7521 WARD       SALESMAN        7698 22-FEB-81
1250        500      30
AAASX9AAEAAAAE8AAJ        7902 FORD       ANALYST         7566 03-DEC-81
3000                 20
AAASX9AAEAAAAE8AAK        7369 SMITH      CLERK           7902 17-DEC-80
800                  20
AAASX9AAEAAAAE8AAL        7788 SCOTT      ANALYST         7566 09-DEC-82
3000                 20
AAASX9AAEAAAAE8AAM        7876 ADAMS      CLERK           7788 12-JAN-83
1100                 20
AAASX9AAEAAAAE8AAN        7934 MILLER     CLERK           7782 23-JAN-82
1300                 10

14 rows selected.


Execution Plan
----------------------------------------------------------
Plan hash value: 3956160932


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

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```
--------------------------------------------------------------------------
-
|   0 | SELECT STATEMENT  |      |   14 | 1386 |      3   (0)| 00:00:01
|
|   1 |  TABLE ACCESS FULL| EMP  |   14 | 1386 |      3   (0)| 00:00:01
|
--------------------------------------------------------------------------
-

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

SQL> CREATE BIMAP INDEX EmpEnameBMIDX
  2  ON Emp(Deptno);
CREATE BIMAP INDEX EmpEnameBMIDX
        *
ERROR at line 1:
ORA-00901: invalid CREATE command


SQL> ED
Wrote file afiedt.buf

  1  CREATE BITMAP INDEX EmpEnameBMIDX
  2* ON Emp(Deptno)
SQL> /

Index created.

SQL> cl scr

SQL> DROP INDEX EmpDeptnoBMIDX;
DROP INDEX EmpDeptnoBMIDX
            *
ERROR at line 1:
ORA-01418: specified index does not exist


SQL> DROP INDEX EmpDeptnoBM;
DROP INDEX EmpDeptnoBM
            *
ERROR at line 1:
ORA-01418: specified index does not exist


SQL> SELECT IndexName FROm USER_INDEXES;
```

--------------------------------------------------------------------------------
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```
SELECT IndexName FROm USER_INDEXES
       *
ERROR at line 1:
ORA-00904: "INDEXNAME": invalid identifier


SQL> CREATE BIMAP INDEX EmpEnameBMIDX
  2
SQL> DROP INDEX EmpEnameBMIDX;

Index dropped.

SQL> clear
SQL> cl scr

SQL> SELECT Ename, Deptno, Sal, Comm, Sal + NVL(Comm, 0) TotSal
  2  FROM Emp
  3  WHERE Sal + NVL(Comm, 0) >= 1600;

ENAME          DEPTNO        SAL       COMM     TOTSAL
---------- ---------- ---------- ---------- ----------
KING               10       5000                  5000
BLAKE              30       2850                  2850
CLARK              10       2450                  2450
JONES              20       2975                  2975
MARTIN             30       1250       1400       2650
ALLEN              30       1600        300       1900
WARD               30       1250        500       1750
FORD               20       3000                  3000
SCOTT              20       3000                  3000

9 rows selected.


Execution Plan
----------------------------------------------------------
Plan hash value: 3956160932

--------------------------------------------------------------------------
-
| Id | Operation         | Name | Rows  | Bytes | Cost (%CPU)| Time
|
--------------------------------------------------------------------------
-
|  0 | SELECT STATEMENT  |      |     9 |   414 |     3   (0)| 00:00:01
|
```

…………………………………………………………………………………………………………………………………………………………………………………

```
|*  1 |  TABLE ACCESS FULL| EMP  |     9 |   414 |     3   (0)| 00:00:01
|
------------------------------------------------------------------------
-

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

   1 - filter("SAL"+NVL("COMM",0)>=1600)

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

SQL> CREATE INDEX EmpTotSalIDX
  2  ON Emp(Sal + NVL(Comm, 0));

Index created.

SQL> SELECT Ename, Deptno, Sal, Comm, Sal + NVL(Comm, 0) TotSal
  2  FROM Emp
  3  WHERE Sal + NVL(Comm, 0) >= 1600;

ENAME          DEPTNO        SAL       COMM     TOTSAL
---------- ---------- ---------- ---------- ----------
WARD               30       1250        500       1750
ALLEN              30       1600        300       1900
CLARK              10       2450                   2450
MARTIN             30       1250       1400       2650
BLAKE              30       2850                   2850
JONES              20       2975                   2975
FORD               20       3000                   3000
SCOTT              20       3000                   3000
KING               10       5000                   5000

9 rows selected.


Execution Plan
----------------------------------------------------------
Plan hash value: 673040625


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


------------------------------------------------------------------------
```

```
----------------------------------------------------------------------
------------------
|   0 | SELECT STATEMENT          |              |   1 |   59 |
2   (0)| 00:00:01 |
|   1 |   TABLE ACCESS BY INDEX ROWID| EMP       |   1 |   59 |
2   (0)| 00:00:01 |
|*  2 |    INDEX RANGE SCAN        | EMPTOTSALIDX |   1 |      |
1   (0)| 00:00:01 |
----------------------------------------------------------------------
------------------

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

   2 - access("SAL"+NVL("COMM",0)>=1600)

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

SQL> cl scr

SQL> DESC USER_INDEXES
 Name                                                         Null?
Type
 ------------------------------------------------------------ ------
-- --------------------------------------------
 INDEX_NAME                                                   NOT
NULL VARCHAR2(30)
 INDEX_TYPE
VARCHAR2(27)
 TABLE_OWNER                                                  NOT
NULL VARCHAR2(30)
 TABLE_NAME                                                   NOT
NULL VARCHAR2(30)
 TABLE_TYPE
VARCHAR2(11)
 UNIQUENESS
VARCHAR2(9)
 COMPRESSION
VARCHAR2(8)
 PREFIX_LENGTH
NUMBER
 TABLESPACE_NAME
VARCHAR2(30)
 INI_TRANS
NUMBER
```

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

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Spool File For Oracle Students Trained by Mr.Sathish Yellanki

...................................................................................................................................................

```
 MAX_TRANS
NUMBER
 INITIAL_EXTENT
NUMBER
 NEXT_EXTENT
NUMBER
 MIN_EXTENTS
NUMBER
 MAX_EXTENTS
NUMBER
 PCT_INCREASE
NUMBER
 PCT_THRESHOLD
NUMBER
 INCLUDE_COLUMN
NUMBER
 FREELISTS
NUMBER
 FREELIST_GROUPS
NUMBER
 PCT_FREE
NUMBER
 LOGGING
VARCHAR2(3)
 BLEVEL
NUMBER
 LEAF_BLOCKS
NUMBER
 DISTINCT_KEYS
NUMBER
 AVG_LEAF_BLOCKS_PER_KEY
NUMBER
 AVG_DATA_BLOCKS_PER_KEY
NUMBER
 CLUSTERING_FACTOR
NUMBER
 STATUS
VARCHAR2(8)
 NUM_ROWS
NUMBER
 SAMPLE_SIZE
NUMBER
 LAST_ANALYZED
DATE
 DEGREE
VARCHAR2(40)
```

```
 INSTANCES
VARCHAR2(40)
 PARTITIONED
VARCHAR2(3)
 TEMPORARY
VARCHAR2(1)
 GENERATED
VARCHAR2(1)
 SECONDARY
VARCHAR2(1)
 BUFFER_POOL
VARCHAR2(7)
 FLASH_CACHE
VARCHAR2(7)
 CELL_FLASH_CACHE
VARCHAR2(7)
 USER_STATS
VARCHAR2(3)
 DURATION
VARCHAR2(15)
 PCT_DIRECT_ACCESS
NUMBER
 ITYP_OWNER
VARCHAR2(30)
 ITYP_NAME
VARCHAR2(30)
 PARAMETERS
VARCHAR2(1000)
 GLOBAL_STATS
VARCHAR2(3)
 DOMIDX_STATUS
VARCHAR2(12)
 DOMIDX_OPSTATUS
VARCHAR2(6)
 FUNCIDX_STATUS
VARCHAR2(8)
 JOIN_INDEX
VARCHAR2(3)
 IOT_REDUNDANT_PKEY_ELIM
VARCHAR2(3)
 DROPPED
VARCHAR2(3)
 VISIBILITY
VARCHAR2(9)
 DOMIDX_MANAGEMENT
VARCHAR2(14)
```

-------------------------------------------------------------------------------
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```
  SEGMENT_CREATED
VARCHAR2(3)

SQL> DESC USER_IND_COLUMNS
 Name                                                           Null?
Type
 --------------------------------------------------------------- ------
-- -------------------------------------------
 INDEX_NAME
VARCHAR2(30)
 TABLE_NAME
VARCHAR2(30)
 COLUMN_NAME
VARCHAR2(4000)
 COLUMN_POSITION
NUMBER
 COLUMN_LENGTH
NUMBER
 CHAR_LENGTH
NUMBER
 DESCEND
VARCHAR2(4)

SQL> SPOOL OFF
```

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