

\*\*\* Check Constraints - 10g

\*\*\* Create table and poulated with a column called FLAG that can only have a value of 1 or 2

```
SQL> CREATE TABLE check_const (id NUMBER, flag NUMBER CONSTRAINT check_flag CHECK (flag IN (1,2)));
```

Table created.

```
SQL> INSERT INTO check_const SELECT rownum, mod(rownum,2)+1 FROM dual CONNECT BY level <=10000;
```

10000 rows created.

```
SQL> COMMIT;
```

Commit complete.

```
SQL> exec dbms_stats.gather_table_stats(ownname=>NULL, tabname=>'CHECK_CONST', estimate_percent=> NULL, method_opt=> 'FOR ALL COLUMNS SIZE 1');
```

PL/SQL procedure successfully completed.

\*\*\* Now perform a search for a value of 3. There can be no such value as the Check constraint only permits values 1 or 2 ...

\*\*\* The exection plan appears to suggest a FTS is being performed (remember, there are no indexes on the flag column)

\*\*\* But the statistics clearly show no LIOs were performed, none

```
SQL> SELECT * FROM check_const WHERE flag = 3;
```

no rows selected

Execution Plan

-----  
Plan hash value: 1514750852

```
-----  
| Id | Operation          | Name          | Rows | Bytes | Cost (%CPU)| Time     |  
-----  
|  0 | SELECT STATEMENT   |               |    1 |    6 |    0 (0)|         |  
|*  1 |  FILTER            |               |     |     |           |         |  
|*  2 |   TABLE ACCESS FULL| CHECK_CONST   |    1 |    6 |    6 (0)| 00:00:01 |  
-----
```

Predicate Information (identified by operation id):

-----  
1 - filter(NULL IS NOT NULL)  
2 - filter("FLAG"=3)

Statistics

```
-----  
0 recursive calls  
0 db block gets  
0 consistent gets  
0 physical reads  
0 redo size  
325 bytes sent via SQL*Net to client  
385 bytes received via SQL*Net from client  
1 SQL*Net roundtrips to/from client  
0 sorts (memory)  
0 sorts (disk)  
0 rows processed
```

\*\*\* However, if we reset the constraint to be enabled with novalidate, Oracle can not guarantee only 1 or 2 values for the flag column

```
SQL> ALTER TABLE check_const DISABLE CONSTRAINT check_flag;
```

```
Table altered.
```

```
SQL> ALTER TABLE check_const ENABLE NOVALIDATE CONSTRAINT check_flag;
```

```
Table altered.
```

```
*** A search of 3 may, just possibly return some rows, therefore a FTS must be performed ....
```

```
SQL> SELECT * FROM check_const WHERE flag = 3;
```

```
no rows selected
```

```
Execution Plan
```

```
-----  
Plan hash value: 2565919798
```

```
-----  
| Id | Operation          | Name          | Rows | Bytes | Cost (%CPU)| Time     |  
-----  
|  0 | SELECT STATEMENT   |               |     1 |     6 |        6 (0)| 00:00:01 |  
|*  1 |  TABLE ACCESS FULL| CHECK_CONST   |     1 |     6 |        6 (0)| 00:00:01 |  
-----
```

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

```
-----  
1 - filter("FLAG"=3)
```

```
Statistics
```

```
-----  
0 recursive calls  
0 db block gets  
22 consistent gets  
0 physical reads  
0 redo size  
325 bytes sent via SQL*Net to client  
385 bytes received via SQL*Net from client  
1 SQL*Net roundtrips to/from client  
0 sorts (memory)  
0 sorts (disk)  
0 rows processed
```

```
*** the 22 consistent gets shows that indeed a FTS was performed ...
```