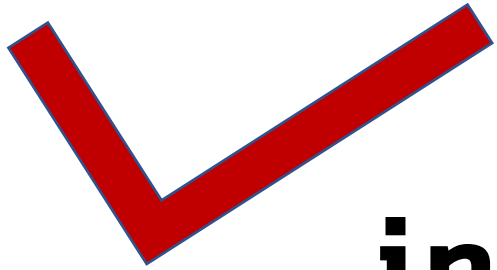


이럴때는



index unique scan 으로 유도하자 !

인덱스 스캔 방법 7가지

	인덱스 액세스 방법	관련 힌트
1	index range scan	index
2	index unique scan	index
3	index skip scan	index_ss
4	index full scan	index
5	index fast full scan	index_ffs
6	index merge scan	and_equal
7	index bitmap merge scan	index_combine



1.index unique scan 이란 ?

```
select empno, ename  
from emp  
where empno = 7788;
```

emp_empno 인덱스

empno	ROWID
7369	AAATdNAAHAAAAFeAAK
7499	AAATdNAAHAAAAFeAAF
7521	AAATdNAAHAAAAFeAAI
7566	AAATdNAAHAAAAFeAAD
7654	AAATdNAAHAAAAFeAAE
7698	AAATdNAAHAAAAFeAAB
7782	AAATdNAAHAAAAFeAAC
7788	AAATdNAAHAAAAFeAAL
7839	AAATdNAAHAAAAFeAAA
7844	AAATdNAAHAAAAFeAAG
7876	AAATdNAAHAAAAFeAAM
7900	AAATdNAAHAAAAFeAAH
7902	AAATdNAAHAAAAFeAAJ
7934	AAATdNAAHAAAAFeAAN

emp 테이블

ROWID	EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
AAATc1AAHAAAAHeAAA	7839	KING	PRESIDENT		1981-11-17	5000		10
AAATc1AAHAAAAHeAAB	7698	BLAKE	MANAGER	7839	1981-05-01	2850		30
AAATc1AAHAAAAHeAAC	7782	CLARK	MANAGER	7839	1981-05-09	2450		10
AAATc1AAHAAAAHeAAD	7566	JONES	MANAGER	7839	1981-04-01	2975		20
AAATc1AAHAAAAHeAAE	7654	MARTIN	SALESMAN	7698	1981-09-10	1250	1400	30
AAATc1AAHAAAAHeAAF	7499	ALLEN	SALESMAN	7698	1981-02-11	1600	300	30
AAATc1AAHAAAAHeAAG	7844	TURNER	SALESMAN	7698	1981-08-21	1500	0	30
AAATc1AAHAAAAHeAAH	7900	JAMES	CLERK	7698	1981-12-11	950		30
AAATc1AAHAAAAHeAAI	7521	WARD	SALESMAN	7698	1981-02-23	1250	500	30
AAATc1AAHAAAAHeAAJ	7902	FORD	ANALYST	7566	1981-12-11	3000		20
AAATc1AAHAAAAHeAAK	7369	SMITH	CLERK	7902	1980-12-09	800		20
AAATc1AAHAAAAHeAAL	7788	SCOTT	ANALYST	7566	1982-12-22	3000		20
AAATc1AAHAAAAHeAAM	7876	ADAMS	CLERK	7788	1983-01-15	1100		20
AAATc1AAHAAAAHeAAN	7934	MILLER	CLERK	7782	1982-01-11	1300		10

2. 두개중에 어느 인덱스를 사용하는게 좋은가?

```
select /*+ gather_plan_statistics */ empno, ename, sal
from emp
where ename='SCOTT' and empno = 7788;
```

emp_empno 인덱스

empno	ROWID
7369	AAATdNAAHAAAAFeAAK
7499	AAATdNAAHAAAAFeAAF
7521	AAATdNAAHAAAAFeAAI
7566	AAATdNAAHAAAAFeAAD
7654	AAATdNAAHAAAAFeAAE
7698	AAATdNAAHAAAAFeAAB
7782	AAATdNAAHAAAAFeAAC
7788	AAATdNAAHAAAAFeAAL
7839	AAATdNAAHAAAAFeAAA
7844	AAATdNAAHAAAAFeAAG
7876	AAATdNAAHAAAAFeAAM
7900	AAATdNAAHAAAAFeAAH
7902	AAATdNAAHAAAAFeAAJ
7934	AAATdNAAHAAAAFeAAN

emp_ename 인덱스

ENAME	ROWID
ADAMS	AAATc1AAHAAAAHeAAM
ALLEN	AAATc1AAHAAAAHeAAF
BLAKE	AAATc1AAHAAAAHeAAB
CLARK	AAATc1AAHAAAAHeAAC
FORD	AAATc1AAHAAAAHeAAJ
JAMES	AAATc1AAHAAAAHeAAH
JONES	AAATc1AAHAAAAHeAAD
KING	AAATc1AAHAAAAHeAAA
MARTIN	AAATc1AAHAAAAHeAAE
MILLER	AAATc1AAHAAAAHeAAN
SCOTT	AAATc1AAHAAAAHeAAL
SMITH	AAATc1AAHAAAAHeAAK
TURNER	AAATc1AAHAAAAHeAAG
WARD	AAATc1AAHAAAAHeAAI

emp 테이블

ROWID	EMPNO	ENAME	JOB	...
AAATc1AAHAAAAHeAAA	7839	KING	PRESIDENT	...
AAATc1AAHAAAAHeAAB	7698	BLAKE	MANAGER	...
AAATc1AAHAAAAHeAAC	7782	CLARK	MANAGER	...
AAATc1AAHAAAAHeAAD	7566	JONES	MANAGER	...
AAATc1AAHAAAAHeAAE	7654	MARTIN	SALESMAN	...
AAATc1AAHAAAAHeAAF	7499	ALLEN	SALESMAN	...
AAATc1AAHAAAAHeAAG	7844	TURNER	SALESMAN	...
AAATc1AAHAAAAHeAAH	7900	JAMES	CLERK	...
AAATc1AAHAAAAHeAAI	7521	WARD	SALESMAN	...
AAATc1AAHAAAAHeAAJ	7902	FORD	ANALYST	...
AAATc1AAHAAAAHeAAK	7369	SMITH	CLERK	...
AAATc1AAHAAAAHeAAL	7788	SCOTT	ANALYST	...
AAATc1AAHAAAAHeAAM	7876	ADAMS	CLERK	...
AAATc1AAHAAAAHeAAN	7934	MILLER	CLERK	...

3.primary key 제약을 걸면 인덱스가 생성된다

```
alter table emp  
add constraint emp_empno_pk primary key(empno);
```

emp_empno_pk 인덱스

empno	ROWID
7369	AAATdNAAHAAAAFeAAK
7499	AAATdNAAHAAAAFeAAF
7521	AAATdNAAHAAAAFeAAI
7566	AAATdNAAHAAAAFeAAD
7654	AAATdNAAHAAAAFeAAE
7698	AAATdNAAHAAAAFeAAB
7782	AAATdNAAHAAAAFeAAC
7788	AAATdNAAHAAAAFeAAL
7839	AAATdNAAHAAAAFeAAA
7844	AAATdNAAHAAAAFeAAG
7876	AAATdNAAHAAAAFeAAM
7900	AAATdNAAHAAAAFeAAH
7902	AAATdNAAHAAAAFeAAJ
7934	AAATdNAAHAAAAFeAAN

emp 테이블

ROWID	EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
AAATc1AAHAAAAHeAAA	7839	KING	PRESIDENT		1981-11-17	5000		10
AAATc1AAHAAAAHeAAB	7698	BLAKE	MANAGER	7839	1981-05-01	2850		30
AAATc1AAHAAAAHeAAC	7782	CLARK	MANAGER	7839	1981-05-09	2450		10
AAATc1AAHAAAAHeAAD	7566	JONES	MANAGER	7839	1981-04-01	2975		20
AAATc1AAHAAAAHeAAE	7654	MARTIN	SALESMAN	7698	1981-09-10	1250	1400	30
AAATc1AAHAAAAHeAAF	7499	ALLEN	SALESMAN	7698	1981-02-11	1600	300	30
AAATc1AAHAAAAHeAAG	7844	TURNER	SALESMAN	7698	1981-08-21	1500	0	30
AAATc1AAHAAAAHeAAH	7900	JAMES	CLERK	7698	1981-12-11	950		30
AAATc1AAHAAAAHeAAI	7521	WARD	SALESMAN	7698	1981-02-23	1250	500	30
AAATc1AAHAAAAHeAAJ	7902	FORD	ANALYST	7566	1981-12-11	3000		20
AAATc1AAHAAAAHeAAK	7369	SMITH	CLERK	7902	1980-12-09	800		20
AAATc1AAHAAAAHeAAL	7788	SCOTT	ANALYST	7566	1982-12-22	3000		20
AAATc1AAHAAAAHeAAM	7876	ADAMS	CLERK	7788	1983-01-15	1100		20
AAATc1AAHAAAAHeAAN	7934	MILLER	CLERK	7782	1982-01-11	1300		10