- /*+SWAP_JOIN_INPUTS */: 해시조인의 경우, BUILD INPUT를 명시적으로 선택

EX: /*+ SWAP_JOIN_INPUTS(A)*/

--해시조인의경우 BUILD INPUT과 PROBE에 대한 순서를 정할 수 있다.

<u>첫 번째 알고리즘</u>

```
select /*+ leading(r, c, l, d, e)
                   use_hash(c) use_hash(l) use_hash(d) use_hash(e) */
            e.first_name, e.last_name, d.department_name
, l.street_address, l.city, c.country_name, r.region_name from hr.regions r
        , hr.countries c
         , hr.locations l
         , hr.departments d
         , hr.employees e
where d.department_id = e.department_id
and l.location_id = d.location_id
         c.country_id = 1.country_id
r.region_id = c.region_id;
and
and
 Id | Operation
                                                                                  | Rows | Bytes | Cost (%CPU) | Time
                                                                                           106 | 10706 | 15 (14) | 00:00:01 |
106 | 10706 | 15 (14) | 00:00:01 |
     0 | SELECT STATEMENT |
    1 | HASH JOIN
                  ASH JOIN | 106 | 10706 | 15 (14) | 00:00:01 |
ASH JOIN | 27 | 2241 | 12 (17) | 00:00:01 |
ASH JOIN | 23 | 1472 | 8 (13) | 00:00:01 |
ASH JOIN | 25 | 700 | 5 (20) | 00:00:01 |
ASH JOIN | 25 | 700 | 5 (20) | 00:00:01 |
ASH JOIN | 25 | 350 | 1 (0) | 00:00:01 |
ASH JOIN | 25 | 350 | 1 (0) | 00:00:01 |
ASH JOIN | 25 | 350 | 1 (0) | 00:00:01 |
ASH ACCESS FULL | LOCATIONS | 23 | 828 | 3 (0) | 00:00:01 |
ASH ACCESS FULL | DEPARTMENTS | 27 | 513 | 3 (0) | 00:00:01 |
ASH ACCESS FULL | EMPLOYEES | 107 | 1926 | 3 (0) | 00:00:01 |
               HASH JOIN
                HASH JOIN
                  HASH JOIN
     7 | TABLE ACCESS FULL | LOCATIONS | 1 TABLE ACCESS FULL | DEPARTMENTS | 9 | TABLE ACCESS FULL | EMPLOYEES |
```

<u>두 번째 알고리즘</u>

```
select /*+ leading(r, c, l, d, e)
          use hash(c) use hash(l) use hash(d) use hash(e)
           swap_join_inputs(1)
           swap_join_inputs(d)
           swap_join_inputs(e) */
       e.first_name, e.last_name, d.department_name
     , 1.street_address, 1.city, c.country_name, r.region_name
from hr.regions r
    , hr.countries c
     , hr.locations 1
     , hr.departments d
     , hr.employees e
where d.department_id = e.department_id
and l.location_id = d.location_id and c.country_id = l.country_id
     r.region_id = c.region_id;
and
| Id | Operation
                            | Name
                                             | Rows | Bytes | Cost (%CPU) | Time
   0 | SELECT STATEMENT |
                                              | 106 | 10706 | 15 (14) | 00:00:01 |
                                                                   15 (14) | 00:00:01
   1 | HASH JOIN
                                                    106 | 10706 |
         TABLE ACCESS FULL | EMPLOYEES
                                                   107 | 1926 |
                                                                        (0) | 00:00:01
| *
   3 1
         HASH JOIN
                                                    27 | 2241 |
                                                                    12 (17) | 00:00:01
                                                                  3 (0)| 00:00:01
8 (13)| 00:00:01
3 (0)| 00:00:01
5 (20)| 00:00:01
3 (0)| 00:00:01
                                                   27 |
          TABLE ACCESS FULL | DEPARTMENTS
                                                           513
                                               23 | 1472 |
| 23 | 828 |
          HASH JOIN
          TABLE ACCESS FULL | LOCATIONS
    6 |
          HASH JOIN
                                                   25 |
                                                            700 |
           TABLE ACCESS FULL | REGIONS
                                                             56 |
            INDEX FULL SCAN | COUNTRY C ID PK | 25 |
                                                                     1 (0) | 00:00:01 |
                                                           350 |
```

```
select /*+ leading(d, e, l, c, r)
          use hash(e) use hash(l) use hash(c) use hash(r)
          swap_join_inputs(1)
          swap_join_inputs(c)
swap_join_inputs(r) */
       e.first name, e.last name, d.department name
     , l.street_address, l.city, c.country_name, r.region_name
from hr.regions r
    , hr.countries c
     , hr.locations 1
    , hr.departments d
     , hr.employees e
where d.department_id = e.department_id
and l.location_id = d.location_id
     c.country id = 1.country id
     r.region id = c.region id;
| Id | Operation
                                              | Rows | Bytes | Cost (%CPU)| Time
                                                                  15 (14) | 00:00:01 |
   0 | SELECT STATEMENT |
                                              | 106 | 10706 |
                                                                   15 (14) | 00:00:01
3 (0) | 00:00:01
       HASH JOIN
                                                   106 | 10706 |
         TABLE ACCESS FULL | REGIONS |
                                                     4 | 56 |
                                                                   12 (17) | 00:00:01
1 (0) | 00:00:01
         HASH JOIN
                                                  106 | 9222 |
                                                  25 | 350 |
106 | 7738 |
                                                                     1 (0) | 00:00:01
   5 |
          HASH JOIN
                                                                    10 (10) | 00:00:01
          TABLE ACCESS FULL | LOCATIONS | HASH JOIN
                                                                  3 (0)| 00:00:01
7 (15)| 00:00:01
3 (0)| 00:00:01
3 (0)| 00:00:01
                                                    23 |
                                                          828 |
                                                   106 | 3922 |
           TABLE ACCESS FULL| DEPARTMENTS
                                                    27 |
                                                          513 |
            TABLE ACCESS FULL| EMPLOYEES
                                                          1926 |
```