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SQL_JOINS

1)Innerjoin

a)Equijoins

```
SQL> select * from agents;

AGENT_CODE           AGENT_NAME           WORKING_AREA
-------------------- -------------------- --------------------
A101                 agent1               Chennai
A102                 agent2               Chennai
A103                 agent3               Bangalore
A104                 agent4               Bangalore

SQL> select * from customers;

CUSTOMER_CODE        CUSTOMER_NAME        CUSTOMER_AREA
-------------------- -------------------- --------------------
C101                 Customer1            Chennai
C102                 Customer2            Chennai
C103                 Customer3            Chennai
C104                 Customer4            Bangalore
C105                 Customer5            Bangalore

SQL> select agents.agent_name, customers.customer_name, customers.customer_area from agents
 join customers on agents.working_area = customers.customer_area;

AGENT_NAME           CUSTOMER_NAME        CUSTOMER_AREA
-------------------- -------------------- --------------------
agent1               Customer1            Chennai
agent2               Customer1            Chennai
agent1               Customer2            Chennai
agent2               Customer2            Chennai
agent1               Customer3            Chennai
agent2               Customer3            Chennai
agent3               Customer4            Bangalore
agent4               Customer4            Bangalore
agent3               Customer5            Bangalore
agent4               Customer5            Bangalore

10 rows selected.
```

b)Non Equijoins

```
SQL> select * from agents;

AGENT_CODE           AGENT_NAME           WORKING_AREA
-------------------- -------------------- --------------------
A101                 agent1               Chennai
A102                 agent2               Chennai
A103                 agent3               Bangalore
A104                 agent4               Bangalore

SQL> select * from customers;

CUSTOMER_CODE        CUSTOMER_NAME        CUSTOMER_AREA
-------------------- -------------------- --------------------
C101                 Customer1            Chennai
C102                 Customer2            Chennai
C103                 Customer3            Chennai
C104                 Customer4            Bangalore
C105                 Customer5            Bangalore

SQL> select agents.agent_name, customers.customer_name, customers.customer_area from agents
  join customers on agents.working_area <> customers.customer_area;

AGENT_NAME           CUSTOMER_NAME        CUSTOMER_AREA
-------------------- -------------------- --------------------
agent1               Customer4            Bangalore
agent1               Customer5            Bangalore
agent2               Customer4            Bangalore
agent2               Customer5            Bangalore
agent3               Customer1            Chennai
agent3               Customer2            Chennai
agent3               Customer3            Chennai
agent4               Customer1            Chennai
agent4               Customer2            Chennai
agent4               Customer3            Chennai

10 rows selected.
```

2)Outerjoin

a)Leftouterjoin (or) Leftjoin

```
SQL> select * from agents;

AGENT_CODE           AGENT_NAME           WORKING_AREA
-------------------- -------------------- --------------------
A101                 agent1               Chennai
A102                 agent2               Chennai
A103                 agent3               Bangalore
A104                 agent4               Bangalore
A105                 agent5               New York

SQL> select * from customers;

CUSTOMER_CODE        CUSTOMER_NAME        CUSTOMER_AREA
-------------------- -------------------- --------------------
C101                 Customer1            Chennai
C102                 Customer2            Chennai
C103                 Customer3            Chennai
C104                 Customer4            Bangalore
C105                 Customer5            Bangalore
C106                 Customer6            Delhi

6 rows selected.

SQL> select * from agents, customers where agents.working_area = customers.customer_area(+
);

AGENT_CODE           AGENT_NAME           WORKING_AREA
-------------------- -------------------- --------------------
CUSTOMER_CODE        CUSTOMER_NAME        CUSTOMER_AREA
-------------------- -------------------- --------------------
A101                 agent1               Chennai
C101                 Customer1            Chennai

A102                 agent2               Chennai
C101                 Customer1            Chennai

A101                 agent1               Chennai
C102                 Customer2            Chennai
```

```
AGENT_CODE           AGENT_NAME             WORKING_AREA
-------------------- ---------------------- --------------------
CUSTOMER_CODE        CUSTOMER_NAME          CUSTOMER_AREA
-------------------- ---------------------- --------------------
A102                 agent2                 Chennai
C102                 Customer2              Chennai

A101                 agent1                 Chennai
C103                 Customer3              Chennai

A102                 agent2                 Chennai
C103                 Customer3              Chennai


AGENT_CODE           AGENT_NAME             WORKING_AREA
-------------------- ---------------------- --------------------
CUSTOMER_CODE        CUSTOMER_NAME          CUSTOMER_AREA
-------------------- ---------------------- --------------------
A103                 agent3                 Bangalore
C104                 Customer4              Bangalore

A104                 agent4                 Bangalore
C104                 Customer4              Bangalore

A103                 agent3                 Bangalore
C105                 Customer5              Bangalore


AGENT_CODE           AGENT_NAME             WORKING_AREA
-------------------- ---------------------- --------------------
CUSTOMER_CODE        CUSTOMER_NAME          CUSTOMER_AREA
-------------------- ---------------------- --------------------
A104                 agent4                 Bangalore
C105                 Customer5              Bangalore

A105                 agent5                 New York



11 rows selected.
```

b)Rightouterjoin (or) Rightjoin

```
SQL> select * from agents, customers where agents.working_area(+) = customers.customer_are
a;

AGENT_CODE           AGENT_NAME           WORKING_AREA
-------------------- -------------------- --------------------
CUSTOMER_CODE        CUSTOMER_NAME        CUSTOMER_AREA
-------------------- -------------------- --------------------
A101                 agent1               Chennai
C101                 Customer1            Chennai

A101                 agent1               Chennai
C102                 Customer2            Chennai

A101                 agent1               Chennai
C103                 Customer3            Chennai


AGENT_CODE           AGENT_NAME           WORKING_AREA
-------------------- -------------------- --------------------
CUSTOMER_CODE        CUSTOMER_NAME        CUSTOMER_AREA
-------------------- -------------------- --------------------
A102                 agent2               Chennai
C101                 Customer1            Chennai

A102                 agent2               Chennai
C102                 Customer2            Chennai

A102                 agent2               Chennai
C103                 Customer3            Chennai


AGENT_CODE           AGENT_NAME           WORKING_AREA
-------------------- -------------------- --------------------
CUSTOMER_CODE        CUSTOMER_NAME        CUSTOMER_AREA
-------------------- -------------------- --------------------
A103                 agent3               Bangalore
C104                 Customer4            Bangalore

A103                 agent3               Bangalore
C105                 Customer5            Bangalore

A104                 agent4               Bangalore
C104                 Customer4            Bangalore
```

```
AGENT_CODE           AGENT_NAME           WORKING_AREA
-------------------- -------------------- --------------------
CUSTOMER_CODE        CUSTOMER_NAME        CUSTOMER_AREA
-------------------- -------------------- --------------------
A104                 agent4               Bangalore
C105                 Customer5            Bangalore


C106                 Customer6            Delhi


11 rows selected.
```

b)Fullouterjoin (or) Fulljoin

```
SQL> select * from agents full join customers on agents.working_area = customers.customer_
area;

AGENT_CODE           AGENT_NAME            WORKING_AREA
-------------------- --------------------- ---------------------
CUSTOMER_CODE        CUSTOMER_NAME         CUSTOMER_AREA
-------------------- --------------------- ---------------------
A101                 agent1                Chennai
C101                 Customer1             Chennai

A102                 agent2                Chennai
C101                 Customer1             Chennai

A101                 agent1                Chennai
C102                 Customer2             Chennai


AGENT_CODE           AGENT_NAME            WORKING_AREA
-------------------- --------------------- ---------------------
CUSTOMER_CODE        CUSTOMER_NAME         CUSTOMER_AREA
-------------------- --------------------- ---------------------
A102                 agent2                Chennai
C102                 Customer2             Chennai

A101                 agent1                Chennai
C103                 Customer3             Chennai

A102                 agent2                Chennai
C103                 Customer3             Chennai


AGENT_CODE           AGENT_NAME            WORKING_AREA
-------------------- --------------------- ---------------------
CUSTOMER_CODE        CUSTOMER_NAME         CUSTOMER_AREA
-------------------- --------------------- ---------------------
A103                 agent3                Bangalore
C104                 Customer4             Bangalore

A104                 agent4                Bangalore
C104                 Customer4             Bangalore

A103                 agent3                Bangalore
C105                 Customer5             Bangalore
```

3)Selfjoin

```
SQL> select a.agent_code, b.agent_name from agents a, agents b where a.working_area = b.wo
rking_area;

AGENT_CODE            AGENT_NAME
--------------------- ---------------------
A101                  agent1
A102                  agent1
A101                  agent2
A102                  agent2
A103                  agent3
A104                  agent3
A103                  agent4
A104                  agent4
A105                  agent5

9 rows selected.
```

4)Crossjoin

```
SQL> select agents.agent_name, customers.customer_name, customers.customer_area from agent
s cross join customers;

AGENT_NAME           CUSTOMER_NAME        CUSTOMER_AREA
-------------------- -------------------- --------------------
agent1               Customer1            Chennai
agent1               Customer2            Chennai
agent1               Customer3            Chennai
agent1               Customer4            Bangalore
agent1               Customer5            Bangalore
agent1               Customer6            Delhi
agent2               Customer1            Chennai
agent2               Customer2            Chennai
agent2               Customer3            Chennai
agent2               Customer4            Bangalore
agent2               Customer5            Bangalore

AGENT_NAME           CUSTOMER_NAME        CUSTOMER_AREA
-------------------- -------------------- --------------------
agent2               Customer6            Delhi
agent3               Customer1            Chennai
agent3               Customer2            Chennai
agent3               Customer3            Chennai
agent3               Customer4            Bangalore
agent3               Customer5            Bangalore
agent3               Customer6            Delhi
agent4               Customer1            Chennai
agent4               Customer2            Chennai
agent4               Customer3            Chennai
agent4               Customer4            Bangalore

AGENT_NAME           CUSTOMER_NAME        CUSTOMER_AREA
-------------------- -------------------- --------------------
agent4               Customer5            Bangalore
agent4               Customer6            Delhi
agent5               Customer1            Chennai
agent5               Customer2            Chennai
agent5               Customer3            Chennai
agent5               Customer4            Bangalore
agent5               Customer5            Bangalore
agent5               Customer6            Delhi

30 rows selected.
```

5)Naturaljoin

```
SQL> select agents.agent_name, customers.customer_name, customers.customer_area from agent
s natural join customers;

AGENT_NAME           CUSTOMER_NAME        CUSTOMER_AREA
-------------------- -------------------- --------------------
agent1               Customer1            Chennai
agent1               Customer2            Chennai
agent1               Customer3            Chennai
agent1               Customer4            Bangalore
agent1               Customer5            Bangalore
agent1               Customer6            Delhi
agent2               Customer1            Chennai
agent2               Customer2            Chennai
agent2               Customer3            Chennai
agent2               Customer4            Bangalore
agent2               Customer5            Bangalore

AGENT_NAME           CUSTOMER_NAME        CUSTOMER_AREA
-------------------- -------------------- --------------------
agent2               Customer6            Delhi
agent3               Customer1            Chennai
agent3               Customer2            Chennai
agent3               Customer3            Chennai
agent3               Customer4            Bangalore
agent3               Customer5            Bangalore
agent3               Customer6            Delhi
agent4               Customer1            Chennai
agent4               Customer2            Chennai
agent4               Customer3            Chennai
agent4               Customer4            Bangalore

AGENT_NAME           CUSTOMER_NAME        CUSTOMER_AREA
-------------------- -------------------- --------------------
agent4               Customer5            Bangalore
agent4               Customer6            Delhi
agent5               Customer1            Chennai
agent5               Customer2            Chennai
agent5               Customer3            Chennai
agent5               Customer4            Bangalore
agent5               Customer5            Bangalore
agent5               Customer6            Delhi

30 rows selected.
```

SQL SUB QUERY

```
SQL> select * from customers where customer_area = (select working_area from agents where
agent_code = 'A101');

CUSTOMER_CODE          CUSTOMER_NAME          CUSTOMER_AREA
--------------------   --------------------   --------------------
C101                   Customer1              Chennai
C102                   Customer2              Chennai
C103                   Customer3              Chennai

SQL>
```

```
SQL> select * from customers where customer_area in (select working_area from agents where
 agent_code = 'A101' or agent_code='A104');

CUSTOMER_CODE          CUSTOMER_NAME          CUSTOMER_AREA
--------------------   --------------------   --------------------
C101                   Customer1              Chennai
C102                   Customer2              Chennai
C103                   Customer3              Chennai
C104                   Customer4              Bangalore
C105                   Customer5              Bangalore

SQL>
```