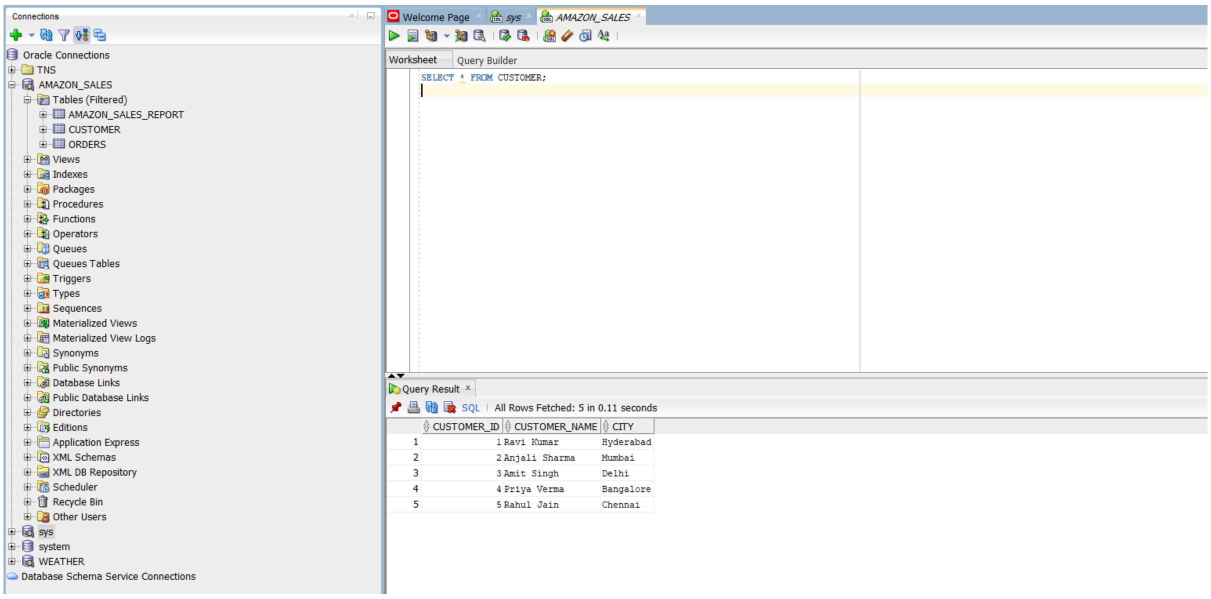
CUSTOMER TABLE(MASTER/PARENT TABLE):

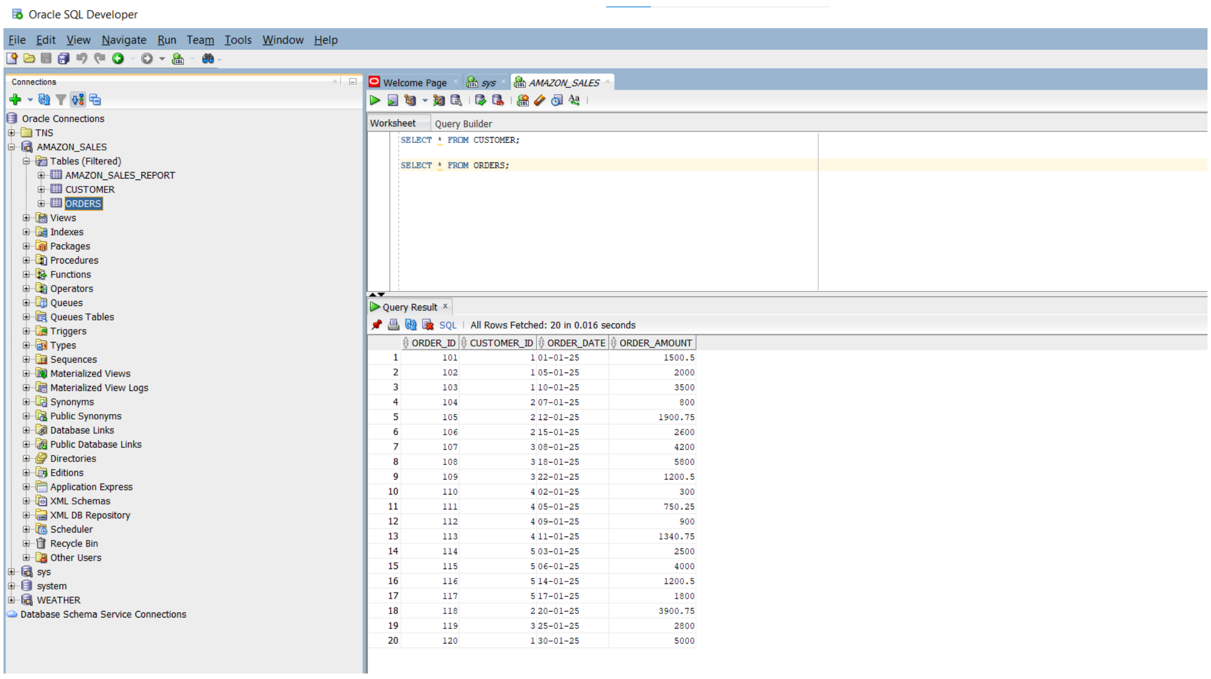


```
SELECT * FROM CUSTOMER;
```

All Rows Fetched: 5 in 0.11 seconds

	CUSTOMER_ID	CUSTOMER_NAME	CITY
1	1	Ravi Kumar	Hyderabad
2	2	Anjali Sharma	Mumbai
3	3	Amit Singh	Delhi
4	4	Priya Verma	Bangalore
5	5	Rahul Jain	Chennai

ORDERS TABLE(CHILD TABLE):

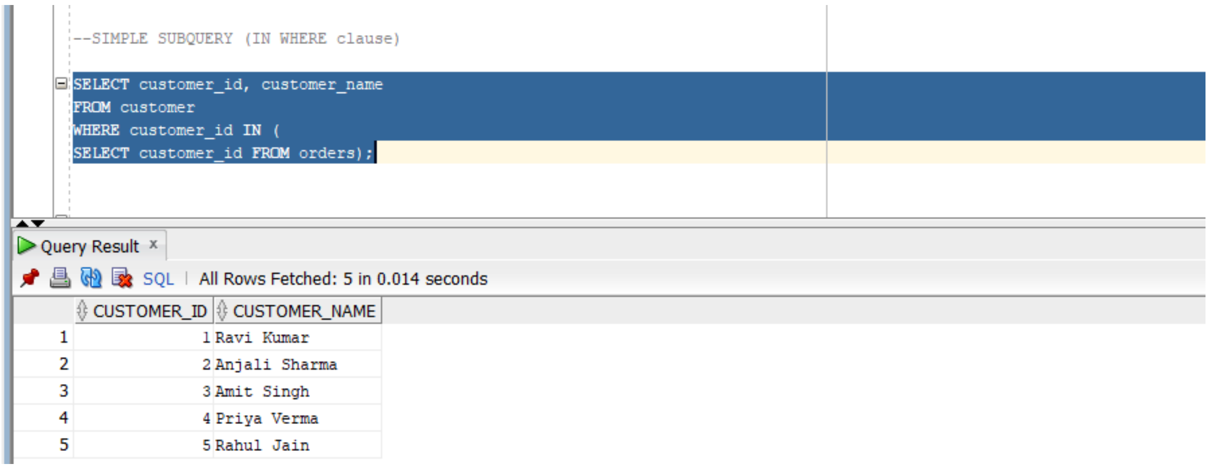


```
SELECT * FROM CUSTOMER;

SELECT * FROM ORDERS;
```

All Rows Fetched: 20 in 0.016 seconds

	ORDER_ID	CUSTOMER_ID	ORDER_DATE	ORDER_AMOUNT
1	101	1	01-01-25	1500.5
2	102	1	05-01-25	2000
3	103	1	10-01-25	3500
4	104	2	07-01-25	800
5	105	2	12-01-25	1900.75
6	106	2	15-01-25	2600
7	107	3	08-01-25	4200
8	108	3	18-01-25	5800
9	109	3	22-01-25	1200.5
10	110	4	02-01-25	300
11	111	4	05-01-25	750.25
12	112	4	09-01-25	900
13	113	4	11-01-25	1340.75
14	114	5	03-01-25	2500
15	115	5	06-01-25	4000
16	116	5	14-01-25	1200.5
17	117	5	17-01-25	1800
18	118	2	20-01-25	3900.75
19	119	3	25-01-25	2800
20	120	1	30-01-25	5000

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

-- SIMPLE SUBQUERY (IN WHERE clause)

-- Get customers who placed at least one order

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

SELECT customer_id, customer_name

FROM customer

WHERE customer_id IN (
    SELECT customer_id
    FROM orders
);
```



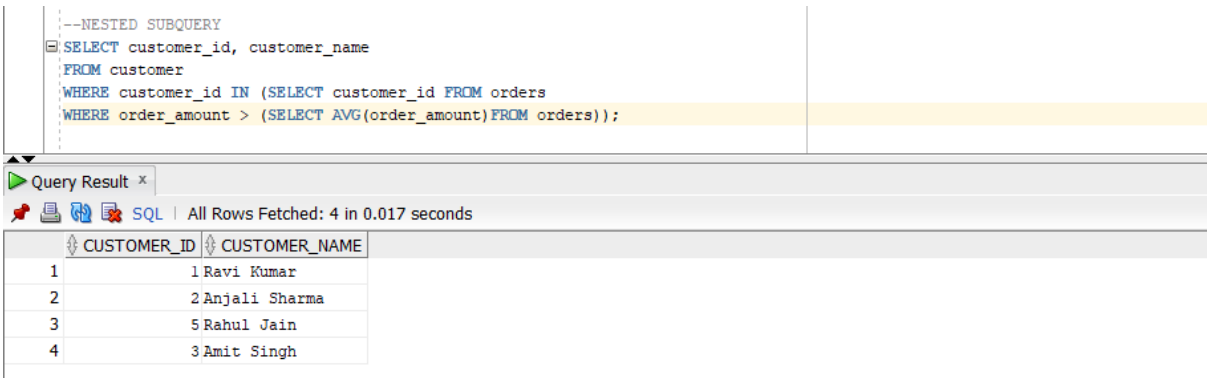
```
--SIMPLE SUBQUERY (IN WHERE clause)

SELECT customer_id, customer_name
FROM customer
WHERE customer_id IN (
SELECT customer_id FROM orders);
```

Query Result

All Rows Fetched: 5 in 0.014 seconds

```
   CUSTOMER_ID CUSTOMER_NAME
1            1 Ravi Kumar
2            2 Anjali Sharma
3            3 Amit Singh
4            4 Priya Verma
5            5 Rahul Jain
```

```
------------------------------------------------------------
-- NESTED SUBQUERY (Multiple levels)
-- Find customers with order amount greater than avg of all orders
------------------------------------------------------------
SELECT customer_id, customer_name
FROM customer
WHERE customer_id IN (
    SELECT customer_id
    FROM orders
    WHERE order_amount > (
        SELECT AVG(order_amount)
        FROM orders
    )
);
```

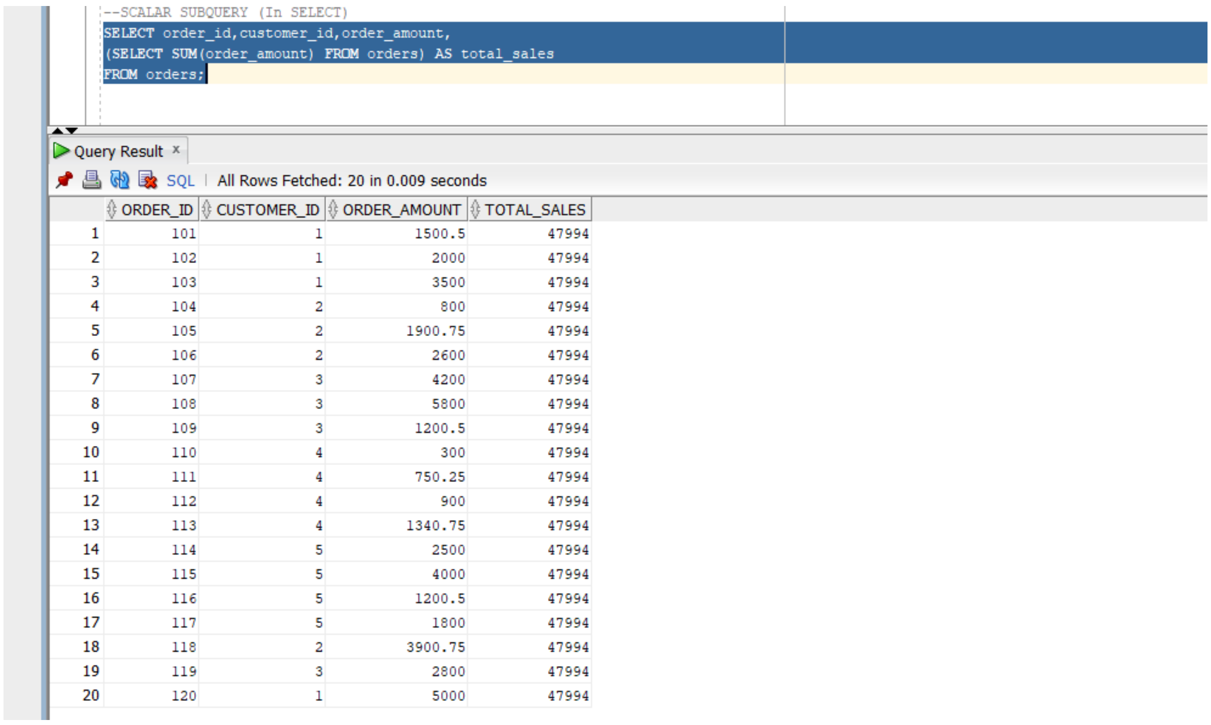


```
--NESTED SUBQUERY
SELECT customer_id, customer_name
FROM customer
WHERE customer_id IN (SELECT customer_id FROM orders
WHERE order_amount > (SELECT AVG(order_amount) FROM orders));
```

All Rows Fetched: 4 in 0.017 seconds

	CUSTOMER_ID	CUSTOMER_NAME
1	1	Ravi Kumar
2	2	Anjali Sharma
3	5	Rahul Jain
4	3	Amit Singh

```
------------------------------------------------------------
-- SCALAR SUBQUERY (In SELECT)
-- Display each order with total company revenue
------------------------------------------------------------
SELECT
    order_id,
    customer_id,
    order_amount,
    (SELECT SUM(order_amount) FROM orders) AS total_sales
FROM orders;
```



```
--SCALAR SUBQUERY (In SELECT)
SELECT order_id,customer_id,order_amount,
(SELECT SUM(order_amount) FROM orders) AS total_sales
FROM orders;
```

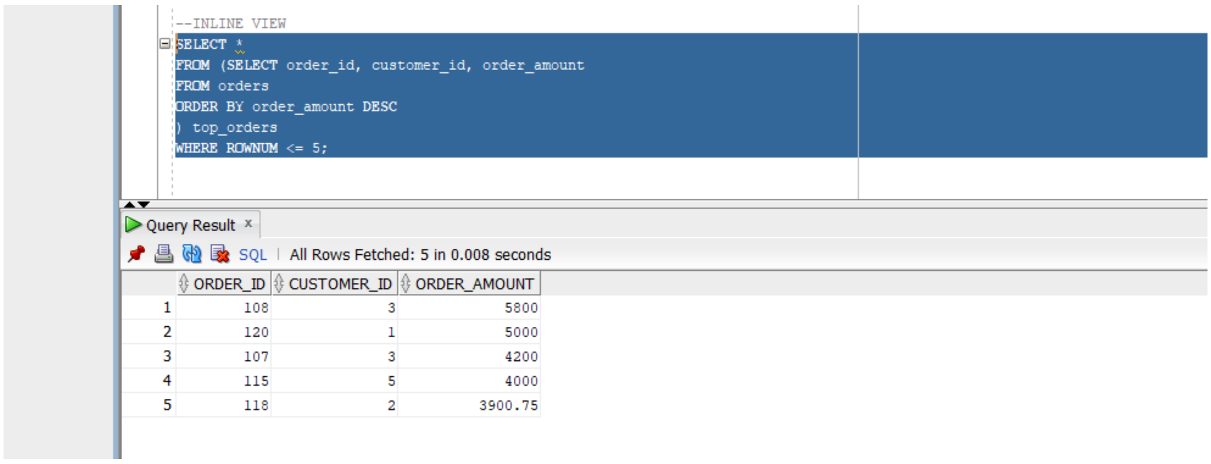
All Rows Fetched: 20 in 0.009 seconds

```
    ORDER_ID CUSTOMER_ID ORDER_AMOUNT TOTAL_SALES
 1       101           1       1500.5       47994
 2       102           1         2000       47994
 3       103           1         3500       47994
 4       104           2          800       47994
 5       105           2      1900.75       47994
 6       106           2         2600       47994
 7       107           3         4200       47994
 8       108           3         5800       47994
 9       109           3       1200.5       47994
10       110           4          300       47994
11       111           4       750.25       47994
12       112           4          900       47994
13       113           4      1340.75       47994
14       114           5         2500       47994
15       115           5         4000       47994
16       116           5       1200.5       47994
17       117           5         1800       47994
18       118           2      3900.75       47994
19       119           3         2800       47994
20       120           1         5000       47994
```

-- 4️⃣ INLINE VIEW (Subquery in FROM clause)

-- Show top 5 highest order amounts only

```
SELECT *
FROM (
   SELECT order_id, customer_id, order_amount
   FROM orders
   ORDER BY order_amount DESC
) top_orders
WHERE ROWNUM <= 5;
```

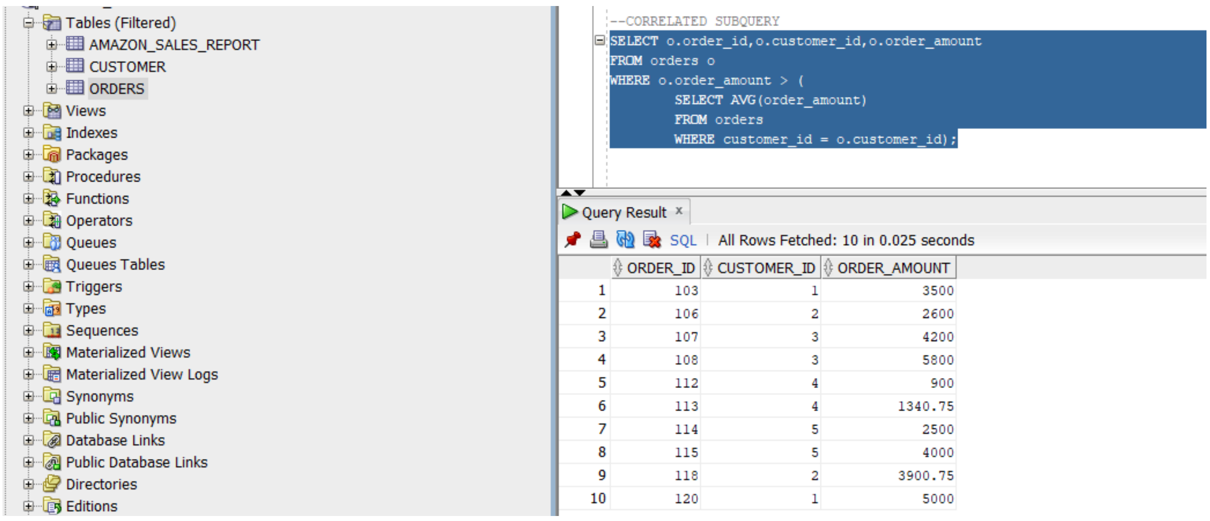


```
--INLINE VIEW
SELECT *
FROM (SELECT order_id, customer_id, order_amount
FROM orders
ORDER BY order_amount DESC
) top_orders
WHERE ROWNUM <= 5;
```

```
All Rows Fetched: 5 in 0.008 seconds
```

	ORDER_ID	CUSTOMER_ID	ORDER_AMOUNT
1	108	3	5800
2	120	1	5000
3	107	3	4200
4	115	5	4000
5	118	2	3900.75

```
------------------------------------------------------------
--CORRELATED SUBQUERY (Depends on outer query)
-- Find orders greater than customer's average order amount
------------------------------------------------------------
SELECT
    o.order_id,
    o.customer_id,
    o.order_amount
FROM
    orders o
WHERE
    o.order_amount > (
        SELECT AVG(order_amount)
        FROM orders
        WHERE customer_id = o.customer_id
    );
```

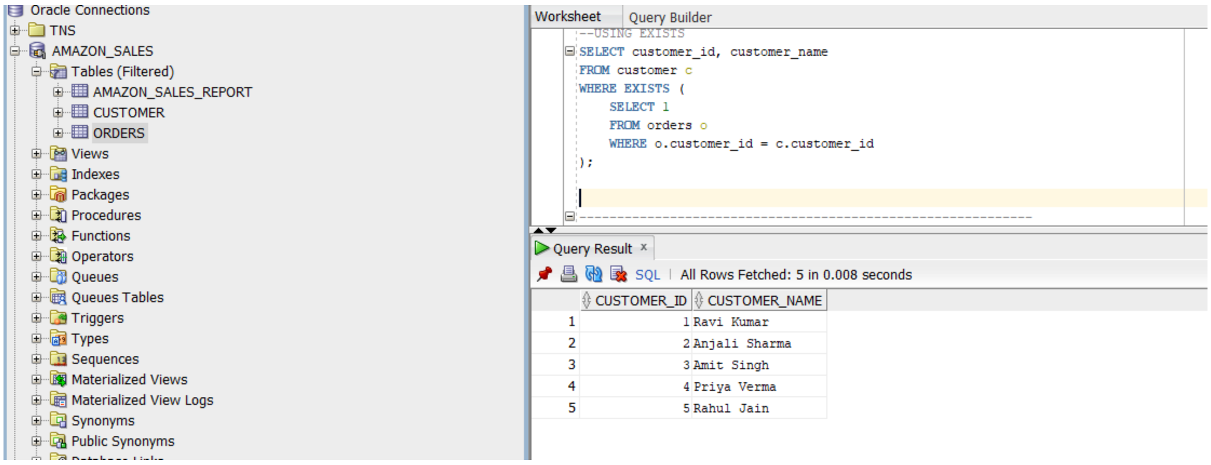


```
--CORRELATED SUBQUERY
SELECT o.order_id,o.customer_id,o.order_amount
FROM orders o
WHERE o.order_amount > (
        SELECT AVG(order_amount)
        FROM orders
        WHERE customer_id = o.customer_id);
```

All Rows Fetched: 10 in 0.025 seconds

	ORDER_ID	CUSTOMER_ID	ORDER_AMOUNT
1	103	1	3500
2	106	2	2600
3	107	3	4200
4	108	3	5800
5	112	4	900
6	113	4	1340.75
7	114	5	2500
8	115	5	4000
9	118	2	3900.75
10	120	1	5000

--



```
--USING EXISTS
SELECT customer_id, customer_name
FROM customer c
WHERE EXISTS (
    SELECT 1
    FROM orders o
    WHERE o.customer_id = c.customer_id
);
```

All Rows Fetched: 5 in 0.008 seconds

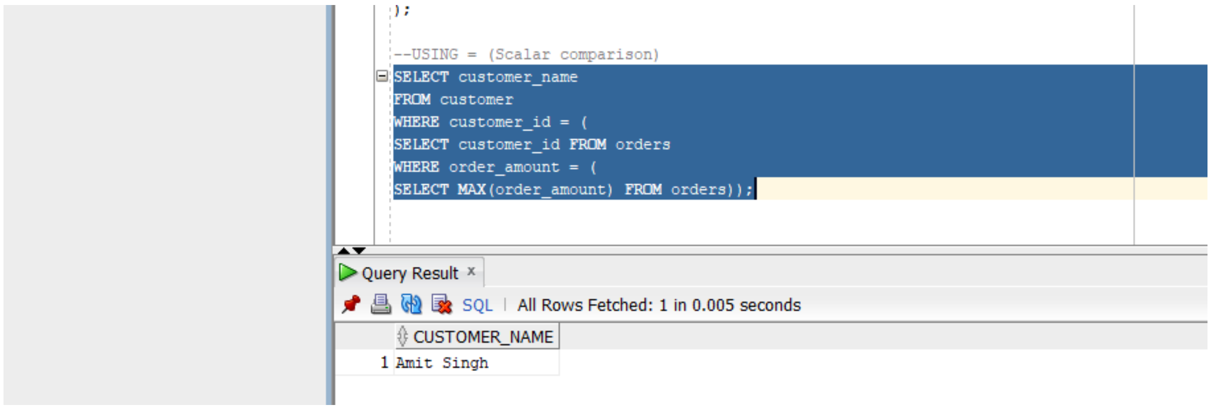
	CUSTOMER_ID	CUSTOMER_NAME
1	1	Ravi Kumar
2	2	Anjali Sharma
3	3	Amit Singh
4	4	Priya Verma
5	5	Rahul Jain

USING EXISTS

-- Show customer names who have at least one order

```
SELECT customer_id, customer_name
FROM customer c
WHERE EXISTS (
    SELECT 1
    FROM orders o
    WHERE o.customer_id = c.customer_id
);
```

```
------------------------------------------------------------
-- USING = (Scalar comparison)
-- Show customer having maximum order amount
------------------------------------------------------------
SELECT customer_name
FROM customer
WHERE customer_id = (
    SELECT customer_id
    FROM orders
    WHERE order_amount = (
        SELECT MAX(order_amount) FROM orders
    )
);
```



```
);

--USING = (Scalar comparison)
SELECT customer_name
FROM customer
WHERE customer_id = (
SELECT customer_id FROM orders
WHERE order_amount = (
SELECT MAX(order_amount) FROM orders));
```

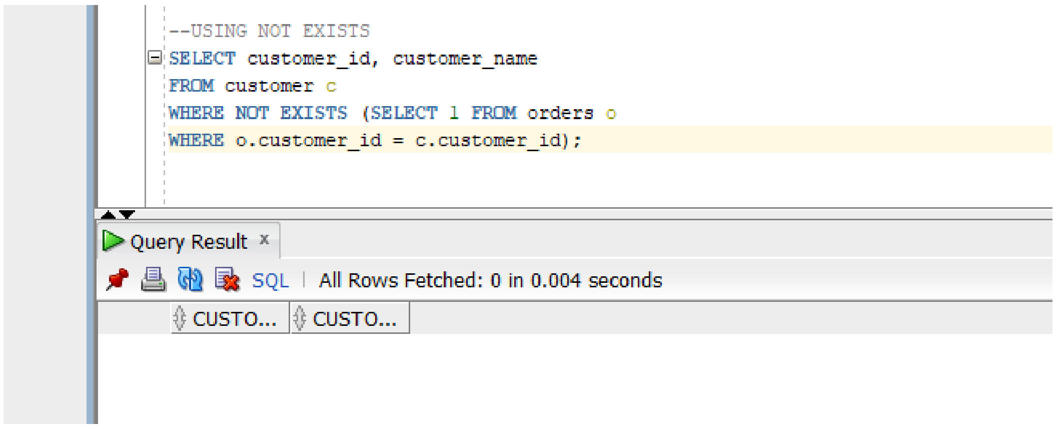
Query Result

All Rows Fetched: 1 in 0.005 seconds

```
  CUSTOMER_NAME
1 Amit Singh
```

```
------------------------------------------------------------
-- USING NOT EXISTS
-- Customers who have NOT placed any orders
------------------------------------------------------------
SELECT customer_id, customer_name
```

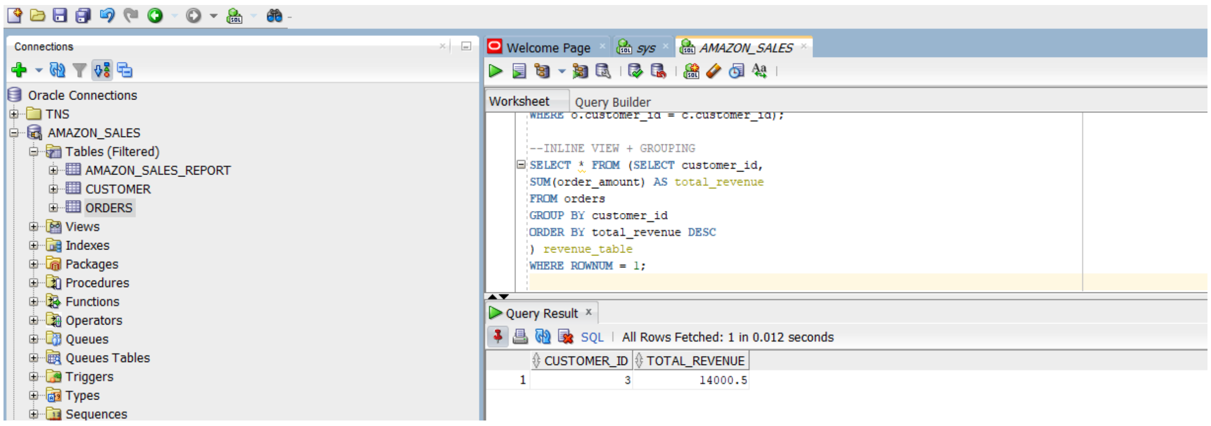
```
FROM customer c
WHERE NOT EXISTS (
    SELECT 1
    FROM orders o
    WHERE o.customer_id = c.customer_id
);
```



```
--USING NOT EXISTS
SELECT customer_id, customer_name
FROM customer c
WHERE NOT EXISTS (SELECT 1 FROM orders o
WHERE o.customer_id = c.customer_id);
```

```
All Rows Fetched: 0 in 0.004 seconds
CUSTO... CUSTO...
```

```
-----------------------------------------------------------
--INLINE VIEW + GROUPING
-- Top customer by total purchase using inline view
-----------------------------------------------------------
SELECT * FROM (
    SELECT
        customer_id,
        SUM(order_amount) AS total_revenue
    FROM orders
    GROUP BY customer_id
    ORDER BY total_revenue DESC
) revenue_table
WHERE ROWNUM = 1;
```



```
WHERE o.customer_id = c.customer_id);

--INLINE VIEW + GROUPING
SELECT * FROM (SELECT customer_id,
SUM(order_amount) AS total_revenue
FROM orders
GROUP BY customer_id
ORDER BY total_revenue DESC
) revenue_table
WHERE ROWNUM = 1;
```

All Rows Fetched: 1 in 0.012 seconds

	CUSTOMER_ID	TOTAL_REVENUE
1	3	14000.5