

T-SQL Select Query

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Select query

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Group By

Group By is used when we have an aggregate function(like: count, max, min, sum, avg) in our query. In first example the order is random, in second example we use the column amount for the order.

CONTRACT_ID	AMOUNT
1	400
2	500
3	700
4	500
1	400
5	200

Group By Example 1:

```
SELECT c.contract_id, c.amount, COUNT(c.contract_id) AS CtrCount
FROM contracts c
GROUP BY c.contract_id, c.amount;
```

Contract_Id	Amount	CtrCount
5	200	1

1	400	2
2	500	1
4	500	1
3	700	1

Group By Example 2:

```
SELECT c.contract_id, c.amount, COUNT(*) AS CtrCount
FROM contracts c
GROUP BY c.amount, c.contract_id
ORDER BY c.amount;
```

Contract_Id	Amount	CtrCount
5	200	1
1	400	2
2	500	1
4	500	1
3	700	1

Having

Having Example:

CONTRACT_ID	CUSTOMER_ID	AMOUNT
1	1	400
2	2	500
3	3	700
4	1	1000
5	2	1200
6	4	900
7	3	2000
8	2	1500

```
SELECT c.customer_id, c.amount
FROM contracts c
WHERE c.amount < 2500
GROUP BY c.customer_id, c.amount
HAVING MIN(c.amount) > 1000 ;
```

	Customer_Id	Amount
2		1200
3		2000
2		1500

Order By

Order By Example:

CONTRACT_ID	CUSTOMER_ID	AMOUNT
1	1	400
2	2	500
3	3	700
4	1	1000
5	2	1200
6	4	900
7	3	2000
8	2	1500

```
SELECT c.customer_id, c.amount
FROM contracts c
WHERE c.amount < 2500
GROUP BY c.customer_id, c.amount
HAVING MIN(c.amount) > 1000
ORDER BY c.amount ;
```

	Customer_Id	Amount
2		1200
2		1500
3		2000

```
SELECT c.customer_id, c.amount
FROM contracts c
WHERE c.amount < 2500
GROUP BY c.customer_id, c.amount
HAVING MIN(c.amount) > 1000
ORDER BY c.amount DESC;
```

	Customer_Id	Amount
3		2000

2	1500
2	1200

Where

Where Example:

CONTRACT_ID	CUSTOMER_ID	AMOUNT
1	1	400
2	2	500
3	3	700
4	1	1000
5	2	1200
6	4	900
7	3	2000
8	2	1500

```
SELECT c.contract_id, c.customer_id, c.amount  
FROM contracts c  
WHERE c.amount > 900 ;
```

Contract_Id	Customer_Id	Amount
4	1	1000
5	2	1200
7	3	2000
8	2	1500

Between operator

Between operator:

Cities table:

CITY_ID	NAME	STATE
1	New York	New York
2	Los Angeles	California
3	Chicago	Illinois
4	San Antonio	Texas
5	San Diego	California

Between Example 1:

Find the cities with id between 2 and 4.

```
SELECT * FROM cities WHERE city_id BETWEEN 2 AND 4;
```

Between Result:

CITY_ID	NAME	STATE
2	Los Angeles	California
3	Chicago	Illinois
4	San Antonio	Texas

Insurance table:

ID	TYPE	START_DATE	END_DATE
2	Life	2012-01-21	2052-01-20
3	Health	2013-01-26	2018-01-25
4	Vehicle	2010-01-23	2012-01-22
5	Vehicle	2008-06-21	2016-06-20
6	Health	2009-03-07	2030-03-06

Between Example 2:

Find the insurance policies underwritten between '01-JAN-2010' and '31-JAN-2013'.

```
SELECT * FROM insurance WHERE start_date BETWEEN '2010-01-01' AND '2013-01-31';
```

Between Result:

ID	TYPE	START_DATE	END_DATE
----	------	------------	----------

2	Life	2012-01-21	2052-01-20
3	Health	2013-01-26	2018-01-25
4	Vehicle	2010-01-23	2012-01-22

Like operator

Like operator:

Cities table:

CITY_ID	NAME	STATE
1	New York	New York
2	Los Angeles	California
3	Chicago	Illinois
4	San Antonio	Texas
5	San Diego	California

Like Example 1:

Find the city name that contain letters: an.

```
SELECT * FROM cities WHERE name LIKE '%an%';
```

Like Result:

CITY_ID	NAME	STATE
2	Los Angeles	California
4	San Antonio	Texas
5	San Diego	California

Like Example 2:

Find the cities name that start with: Sa.

```
SELECT * FROM cities WHERE name LIKE '%Sa%';
```

Like Result:

CITY_ID	NAME	STATE
4	San Antonio	Texas

5 San Diego California

Like Example 3:

Find the cities name that end with: go.

```
SELECT * FROM cities WHERE name LIKE '%go';
```

Like Result:

CITY_ID	NAME	STATE
3	Chicago	Illinois
5	San Diego	California

Exists operator

Exists operator:

Cities table:

CITY_ID	NAME	STATE
1	New York	New York
2	Los Angeles	California
3	Chicago	Illinois
4	San Antonio	Texas
5	San Diego	California

States table:

STATE_ID	NAME
1	Arizona
2	California
3	Texas
4	Michigan

Exists Example:

Find the cities that have the column state correspondent in the states table.

```
SELECT * FROM cities c WHERE EXISTS (SELECT * FROM states s WHERE  
c.state=s.name );
```

Exists Result:

CITY_ID	NAME	STATE
2	Los Angeles	California
4	San Antonio	Texas
5	San Diego	California

NOT Exists Example:

Find the cities that NOT have the column state correspondent in the states table.

```
SELECT * FROM cities c WHERE NOT EXISTS (SELECT * FROM states s WHERE  
c.state=s.name );
```

NOT Exists Result:

CITY_ID	NAME	STATE
1	New York	New York
3	Chicago	Illinois

IN operator

IN operator:

Cities table:

CITY_ID	NAME	STATE
1	New York	New York
2	Los Angeles	California
3	Chicago	Illinois
4	San Antonio	Texas

5 San Diego California

States table:

STATE_ID	NAME
1	Arizona
2	California
3	Texas
4	Michigan

IN Example:

Find the cities that have the state in the states table.

```
SELECT * FROM cities c WHERE c.state IN (SELECT s.name FROM states s );
```

IN Result:

CITY_ID	NAME	STATE
2	Los Angeles	California
4	San Antonio	Texas
5	San Diego	California

NOT IN Example:

Find the cities that NOT have the state in the states table.

```
SELECT * FROM cities c WHERE c.state NOT IN (SELECT s.name FROM states s );
```

NOT IN Result:

CITY_ID	NAME	STATE
1	New York	New York
3	Chicago	Illinois

Some operator

Some operator:

Cities table:

CITY_ID	NAME	STATE
1	New York	New York
2	Los Angeles	California
3	Chicago	Illinois
4	San Antonio	Texas
5	San Diego	California

States table:

STATE_ID	NAME
1	Arizona
2	California
3	Texas
4	Michigan

Some Example:

Find the cities that have the state in the states table using = some.

```
SELECT * FROM cities c WHERE c.state = SOME (SELECT s.name FROM states s );
```

Some Result:

CITY_ID	NAME	STATE
2	Los Angeles	California
4	San Antonio	Texas
5	San Diego	California

Any operator

Any operator:

Cities table:

CITY_ID	NAME	STATE
1	New York	New York
2	Los Angeles	California
3	Chicago	Illinois
4	San Antonio	Texas

5 San Diego California

States table:

STATE_ID	NAME
1	Arizona
2	California
3	Texas
4	Michigan

Any Example:

Find the cities that have the any state in the states table using = any.

```
SELECT * FROM cities c WHERE c.state = ANY (SELECT s.name FROM states s );
```

Any Result:

CITY_ID	NAME	STATE
2	Los Angeles	California
4	San Antonio	Texas
5	San Diego	California

Resources:

www.tsql.info/select-query/select-query.php