

## SQL Syntax and functions

PowerPoint, reference material and exercise can be downloaded at :  
<http://cdr.websams.edb.gov.hk/>

### CONVERT function [Data type conversion]

Returns an expression converted to a supplied data type.

CONVERT( datatype, expression [ , format-style ] )

e.g. `SELECT CONVERT(integer, 5.2) from dummy`

### COUNT function [Aggregate]

Counts the number of rows in a group depending on the specified parameters.

COUNT(\* | expression | DISTINCT expression )

e.g. `SELECT COUNT(*) FROM TB_HSE_COMMON;`

### SUM function [Aggregate]

Returns the total of the specified expression for each group of rows.

SUM( expression | DISTINCT expression )

e.g. `SELECT SUM(WEIGHT) FROM vw_stu_lateststudent`

### MAX function [Aggregate]

Returns the maximum expression value found in each group of rows.

MAX( expression | DISTINCT expression )

e.g. `SELECT MAX(WEIGHT) FROM vw_stu_lateststudent`

### MIN function [Aggregate]

Returns the minimum expression value found in each group of rows.

MIN( expression | DISTINCT expression )

e.g. `SELECT MIN(WEIGHT) FROM vw_stu_lateststudent`

DATEFORMAT function [Date and time]

Returns a string representing a date expression in the specified format.

DATEFORMAT( datetime-expression, string-expression )

e.g. `SELECT DATEFORMAT('2018-01-01', 'Mmm dd, yyyy') from dummy`

DAYNAME function [Date and time]

Returns the name of the day of the week from a date.

DAYNAME( date-expression )

e.g. `SELECT DAYNAME('2018/05/02') from dummy`

MONTHNAME function [Date and time]

Returns the name of the month from a date.

MONTHNAME( date-expression )

e.g. `SELECT MONTHNAME('2018-09-05') from dummy`

LENGTH function [String]

Returns the number of characters in the specified string.

LENGTH( string-expression )

e.g. `SELECT LENGTH('websams') from dummy`

SUBSTRING function [String]

Returns a substring of a string.

{ SUBSTRING | SUBSTR } ( string-expression, start[, length ] )

e.g. `SELECT SUBSTR('websams',2,3) from dummy`

TRIM function [String]

Removes leading and trailing blanks from a string.

TRIM( string-expression )

e.g. `SELECT TRIM(' websams ') from dummy`

REPLACE function [String]

Replaces a string with another string, and returns the new results.

REPLACE( original-string, search-string, replace-string )

e.g. `SELECT replace('websams', 'web', 'xxx') from dummy`

## SQL Syntax and functions

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```
SELECT column_list
FROM table_list
[WHERE search_condition]
[ORDER BY {column_list | column_index}]
```

---

```
SELECT column_list FROM table_list
```

Example:

```
SELECT * FROM TB_STU_Student
select ename, cname from TB_STU_STUDENT
```

---

### ORDER BY

```
select classcode, classno, ename, cname from TB_STU_STUDENT
order by classcode desc, classno asc
```

---

### WHERE

- \_ Comparison: =, <, >, <=, >=, <>
- \_ Range: [NOT] **BETWEEN** start\_value **AND** end\_value
- \_ Membership: [NOT] **IN** (value list)
- \_ Pattern Match: [NOT] **LIKE** pattern\_string
- \_ Wildcard characters : % \_
- \_ NULL: **IS** [NOT] **NULL**

Example:

```
SELECT ClassCode, EnName, ChName FROM TB_STU_Student
WHERE EnName LIKE 'CHAN %' ORDER BY EnName
```