

Coloumn Type		
Purpose	Data Type	Example
Integers	int(M)	int(5)
Floating-point (real) numbers	float(M,D)	float(12,3)
Double-precision floating-point	double(M,D)	double(20,3)
Dates and times	timestamp(M)	timestamp(8) (for YYYYMMDD)
Fixed-length strings	char(M)	char(10)
Variable-length strings	varchar(M)	varchar(20)
A large amount of text	blob	blob
Values chosen from a list	enum('value1', 'value2', ..)	enum('apples', 'bananas')

Mathematical Functions	
What	How
Count rows per group	COUNT(column *)
Average value of group	AVG(column)
Minimum value of group	MIN(column)
Maximum value of group	MAX(column)
Sum values in a group	SUM(column)
Absolute value	abs(number)
Rounding numbers	round(number)
Largest integer not greater	floor(number)
Smallest integer not smaller	ceiling(number)
Square root	sqrt(number)
nth power	pow(base,exponent)
random number n, 0 < n < 1	rand()
sin (similar cos, etc.)	sin(number)

String Functions	
What	How
Compare strings	strcmp(string1, string2)
Convert to lower case	lower(string)
Convert to upper case	upper(string)
Left-trim whitespace (similar right)	ltrim(string)
Substring of string	substring(string, index1, index2)
Encrypt password	password(string)
Encode string	encode(string, key)
Decode string	decode(string, key)
Get date	curdate()
Get time	curtime()
Extract day name from date string	dayname(string)
Extract day number from date string	dayofweek(string)
Extract month from date string	monthname(string)

Date Functions	
DATEADD (datepart, number, date)	
DATEDIFF (datepart, start, end)	
DATENAME (datepart, date)	
DATEPART (datepart, date)	
DAY (date)	
GETDATE()	
GETUTCDATE()	
MONTH(date)	
YEAR(date)	

Date Parts	
Year	yy, yyyy
Quarter	qq, q
Day	dd, d
Day of Year	dy, y
Month	mm, m
Week	wk, ww
Hour	hh

Date Parts (cont)	
Minute	mi, n
Second	ss, s
Millisecond	ms

Type Conversion	
CAST (expressions AS datatype)	
CONVERT (datatype, expression)	

Ranking Functions	
RANK	NTILE
DENSE_RANK	ROW_NUMBER

Grouping Functions	
AVG	MAX
BINARY_CHECKSUM	MIN
CHECKSUM	SUM
CHECKSUM_AVG	STDEV
COUNT	STDEVP
COUNT_BIG	VAR
GROUPING	VARP

Table Functions	
ALTER	DROP
CREATE	TRUNCATE

Create a Trigger	
CREATE TRIGGER <i>name</i>	
ON	
<i>table</i>	
FOR	
DELETE, INSERT, UPDATE	
AS	
-- Comments	
SELECT * FROM <i>table</i>	
GO	

Create a View	
CREATE VIEW <i>name</i>	
AS	
-- Comments	
SELECT FROM <i>table</i> *	
GO	



Create Table

```
CREATE TABLE table (  
  column1 type [[NOT] NULL]  
  [AUTO_INCREMENT],  
  column2 type [[NOT] NULL]  
  [AUTO_INCREMENT],  
  ...  
  other options,  
  PRIMARY KEY (column(s) );
```

Insert Data

```
INSERT INTO table VALUES  
  (list of values);  
INSERT INTO table SET  
  column1=value1,  
  column2=value2,  
  ...  
  columnk=valuek;  
INSERT INTO table (column1, column2,...)  
VALUES (value1, value2...);
```

Insert/Select

```
INSERT INTO *table (column1, column2,...)  
SELECT statement;  
(See below)
```

Delete data

```
DELETE FROM table  
[WHERE condition(s)];  
(Omit WHERE to delete all data)
```

Updating Data

```
UPDATE table SET  
  column1=value1,  
  column2=value2,  
  ...  
  columnk=valuek  
[WHERE condition(s)];
```

Insert column

```
ALTER TABLE table ADD COLUMN  
column type options;
```

Delete Column

```
ALTER TABLE table  
DROP COLUMN column;
```

Delete table (Careful!)

```
DROP TABLE [IF EXISTS] table;
```

Create an Index

```
CREATE UNIQUE INDEX name  
ON  
table (columns)
```

Create a Stored Procedure

```
CREATE PROCEDURE name  
  @variable AS datatype = value  
AS  
  -- Comments  
  SELECT FROM table*  
GO
```

