mydb SQL Support

December 15, 2015

1 Keywords

DATABASE	DATABASES	TABLE	TABLES	SHOW	CREATE
DROP	USE	CHECK	PRIMARY	KEY	UNIQUE
NOT	NULL	AUTO_INCREMENT	INSERT	INTO	VALUES
DELETE	FROM	WHERE	UPDATE	SET	SELECT
GROUP	BY	IS	IN	BETWEEN	LIKE
AND	OR	SUM	AVG	MAX	MIN
INT	SMALLINT	BIGINT	FLOAT	REAL	DOUBLE
VARCHAR	STRING	CHAR	BOOLEAN	DATETIME	DESC
FOREIGN	REFERENCES				

These keywords are **NOT** case-sensitive.

2 Syntax

$\langle program \rangle$ ::= $\langle stmt \rangle$ $[\langle stmt \rangle]$*

$\langle ident \rangle$ ::= `[A-Za-z_][A-Za-z0-9_]*`

$\langle integer \rangle$ ::= `[0-9]+`

$\langle real \rangle$ ::= `[0-9]+.[0-9]+`

$\langle string \rangle$ ::= `'.*'`

$\langle value \rangle$ ::= $\langle integer \rangle$ | $\langle real \rangle$ | $\langle string \rangle$

$\langle stmt \rangle$ ::= $\langle sysStmt \rangle$;
| $\langle dbStmt \rangle$;
| $\langle tbStmt \rangle$;

$\langle sysStmt \rangle$ ::= SHOW DATABASES

1

$\langle dbStmt\rangle$ ::= CREATE DATABASE $\langle dbName\rangle$
         | DROP DATABASE $\langle dbName\rangle$
         | USE $\langle dbName\rangle$
         | SHOW TABLES

$\langle tbStmt\rangle$ ::= CREATE TABLE $\langle tbName\rangle$ ($\langle field\rangle$ [, $\langle field\rangle$]* [, CHECK ($\langle boolExpr\rangle$)] [, PRIMARY KEY ($\langle colName\rangle$)] [, FOREIGN KEY ($\langle colName\rangle$) REFERENCES $\langle tbName\rangle$ ($\langle colName\rangle$)]*)
         | DROP TABLE $\langle tbName\rangle$
         | DESC $\langle tbName\rangle$ | SHOW TABLE $\langle tbName\rangle$
         | INSERT INTO $\langle tbName\rangle$ [($\langle colName\rangle$ [, $\langle colName\rangle$]*)] VALUES ($\langle value\rangle$ [, $\langle value\rangle$]*)
         | DELETE FROM $\langle tbName\rangle$ WHERE $\langle boolExpr\rangle$
         | UPDATE $\langle tbName\rangle$ SET $\langle colName\rangle$ = $\langle expr\rangle$ [, $\langle colName\rangle$ = $\langle expr\rangle$]* WHERE $\langle boolExpr\rangle$
         | SELECT $\langle selectors\rangle$ FROM $\langle tbName\rangle$ [, $\langle tbName\rangle$]* [WHERE $\langle boolExpr\rangle$] [GROUP BY $\langle colName\rangle$]

$\langle tbName\rangle$ ::= $\langle ident\rangle$

$\langle colName\rangle$ ::= $\langle ident\rangle$

$\langle field\rangle$ ::= $\langle colName\rangle$ $\langle type\rangle$ [$\langle attr\rangle$]*

$\langle type\rangle$ ::= INT [($\langle integer\rangle$)]
         | SMALLINT
         | BIGINT
         | FLOAT | REAL
         | DOUBLE
         | VARCHAR ($\langle integer\rangle$)
         | STRING
         | CHAR
         | BOOLEAN
         | DATETIME

$\langle attr\rangle$ ::= NOT NULL | UNIQUE | AUTO_INCREMENT

$\langle boolExpr\rangle$ ::= $\langle col\rangle$ $\langle boolOp\rangle$ $\langle expr\rangle$
         | $\langle col\rangle$ IS [NOT] NULL
         | $\langle col\rangle$ [NOT] IN ($\langle value\rangle$ [, $\langle value\rangle$]*)
         | $\langle col\rangle$ [NOT] BETWEEN $\langle value\rangle$ AND $\langle value\rangle$
         | $\langle col\rangle$ [NOT] LIKE $\langle string\rangle$
         | ($\langle boolExpr\rangle$)
         | $\langle boolExpr\rangle$ AND $\langle boolExpr\rangle$
         | $\langle boolExpr\rangle$ OR $\langle boolExpr\rangle$

$\langle col \rangle$ ::= $[\langle tbName \rangle \ .]$ $\langle colName \rangle$

$\langle boolOp \rangle$ ::= '=' | '<>' | '<=' | '>=' | '<' | '>'

$\langle expr \rangle$ ::= $\langle value \rangle$
                                | $\langle col \rangle$
                                | $\langle expr \rangle$ $\langle op \rangle$ $\langle expr \rangle$
                                | ($\langle expr \rangle$)

$\langle op \rangle$ ::= '+' | '−' | '*' | '/' | '%'

$\langle selectors \rangle$ ::= * | $\langle selector \rangle$ [, $\langle selector \rangle$]*

$\langle selector \rangle$ ::= $\langle col \rangle$
                                | $\langle func \rangle$ ($\langle col \rangle$)

$\langle func \rangle$ ::= SUM | AVG | MAX | MIN

3   Priority

- () *prior to* AND *prior to* OR

- **left** association

4   Semantics