

# Defining tables

## SQL Reference

### CREATE TABLE & data types

CREATE TABLE defines a table's schema 表结构: the column names and their data types 数据类型. The main SQLite types are INTEGER, TEXT, and REAL (a decimal number).

```
CREATE TABLE student (id INTEGER, name TEXT, score REAL);
INSERT INTO student VALUES (1, 'Mei', 88.5);
SELECT * FROM student;
```

### Keys & constraints

A constraint 约束 is a rule on a column: PRIMARY KEY (a unique id), NOT NULL (must have a value), UNIQUE, and DEFAULT (a fallback value).

```
CREATE TABLE student (
    id INTEGER PRIMARY KEY,
    name TEXT NOT NULL,
    score INTEGER DEFAULT 0
);
INSERT INTO student (id, name) VALUES (1, 'Mei');
SELECT * FROM student;
```

### ALTER TABLE

ALTER TABLE ... ADD COLUMN ... changes the schema of a table that already exists. A DEFAULT fills the new column in the old rows.

```
CREATE TABLE student (id INTEGER, name TEXT);
INSERT INTO student VALUES (1, 'Mei');
ALTER TABLE student ADD COLUMN score INTEGER DEFAULT 0;
SELECT * FROM student;
```