Basic Commands
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all sql commands must end with a semicolon
sql is not case-sensitive, but as a convention: we write all sql reserve words with capital letters
mysql -u root -p
CREATE database dbName;
SHOW databases;
USE dbName;

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mysql common data types:
INT   -- Whole Numbers
DECIMAL(M,N)   -- Decimal Numbers - Exact Value(M represents the number of all the digits, N represents the number of digits after the decimal point)
VARCHAR(l)   -- String of text of length l
BLOB   -- Binary Large Object, Stores large data
DATE   -- 'YYYY-MM-DD'
TIMESTAMP   -- 'YYYY-MM-DD HH:MM:SS' - used for recording events

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when creating a table: we specify the columns:
```
CREATE TABLE student (
  student_id INT PRIMARY KEY,
  name VARCHAR(40),
  major VARCHAR(40)
  -- PRIMARY KEY(student_id)
);
```

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tells you info about the table schema:
DESCRIBE student;

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delete table:
```
DROP TABLE student;
```

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you can edit the table schema:
```
ALTER TABLE student ADD gpa DECIMAL(10,4);
ALTER TABLE student DROP COLUMN gpa;
```

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then you can insert data and add rows:
```
INSERT INTO student VALUES(1, 'Jack', 'Biology');
INSERT INTO student VALUES(2, 'Kate', 'Sociology');
INSERT INTO student(student_id, name) VALUES(3, 'Claire');
INSERT INTO student VALUES(4, 'Jack', 'Biology');
INSERT INTO student VALUES(5, 'Mike', 'Computer Science');
```

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constraints:
```
CREATE TABLE student (
  student_id INT PRIMARY KEY AUTO_INCREMENT,
  name VARCHAR(40) NOT NULL,
  -- name VARCHAR(40) UNIQUE,
  major VARCHAR(40) DEFAULT 'undecided',
);
```

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updating and deleting:
```
DELETE FROM student;

DELETE FROM student
WHERE student_id = 4;

DELETE FROM student
WHERE major = 'Sociology' AND name = 'Kate';

UPDATE student
SET major = 'Undecided';

UPDATE student
SET name = 'Johnny'
WHERE student_id = 4;

UPDATE student
SET major = 'Biological Sciences'
```

```
WHERE major = 'Biology';

UPDATE student
SET major = 'Biosociology'
WHERE major = 'Biology' OR major = 'sociology'

UPDATE student
SET major = 'Undecided', name = 'Tom'
WHERE student_id = 4;

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Basic queries:
SELECT *
FROM student;

limiting:
SELECT *
FROM student
LIMIT 2;

ordering:
SELECT *
FROM student
ORDER BY student_id DESC;

SELECT *
FROM student
ORDER BY name, student_id DESC;

specifying:
SELECT student.name, student.major
FROM student;

filtering:
SELECT *
FROM student
WHERE name = 'Jack';

you can use <, >, <=, >=, =, <>(not equal), AND, OR

SELECT *
FROM student
WHERE student_id > 2;

SELECT *
FROM student
WHERE major = 'Biology' AND student_id > 1;
```

in operator:

```
SELECT *
FROM student
WHERE name IN ('Tim', 'Rim');
```