```
--FOREIGN KEY CONSTRAINT
 ========================

-- used to enforce a link between 2 tables

CREATE TABLE customers (
        customer_id INT PRIMARY KEY,
        first_name VARCHAR(50),
        last_name VARCHAR(50)
);

CREATE TABLE orders (
        order_id INT PRIMARY KEY,
        order_date DATE,
        customer_id INT,
        FOREIGN KEY (customer_id) REFERENCES customers (customer_id)
 );

-- 1, John, Doe (customers)

-- 101, '2023-07-02', 1 (orders)
-- 102, '2023-07-02', 2

INSERT INTO customers (customer_id, first_name, last_name)
VALUES (1, 'John', 'Doe');

INSERT INTO orders (order_id, order_date, customer_id)
VALUES (1, '2023-07-01', 1);

INSERT INTO orders (order_id, order_date, customer_id)
VALUES (2, '2023-07-02', 2);

-- FOREIGN KEY WITH ON DELETE CASCADE

drop table customers;
drop table orders;

CREATE TABLE customers (
        customer_id INT PRIMARY KEY,
        first_name VARCHAR(50),
        last_name VARCHAR(50)
);

CREATE TABLE orders (
        order_id INT PRIMARY KEY,
        order_date DATE,
        customer_id INT,
        FOREIGN KEY (customer_id) REFERENCES customers (customer_id)
);
```

```
INSERT INTO customers (customer_id, first_name, last_name)
VALUES (1, 'John', 'Doe');
INSERT INTO orders (order_id, order_date, customer_id)
VALUES (1, '2023-07-01', 1);

-- IF I DELETE A CUSTOMER FROM CUSTOMERS TABLE ALL THE RELATED ORDERS
-- SHOULD BE DELETED


-- FOREIGN KEY WITH ON UPDATE CASCADE

drop table orders;

drop table customers;

CREATE TABLE customers (
	customer_id INT PRIMARY KEY,
	first_name VARCHAR(50),
	last_name VARCHAR(50)
);

CREATE TABLE orders (
	order_id INT PRIMARY KEY,
	order_date DATE,
	customer_id INT,
	FOREIGN KEY (customer_id) REFERENCES customers (customer_id)
	ON UPDATE CASCADE
);


INSERT INTO customers (customer_id, first_name, last_name)
VALUES (1, 'John', 'Doe');
INSERT INTO orders (order_id, order_date, customer_id)
VALUES (1, '2023-07-01', 1);

CREATE TABLE students (
	student_id INT PRIMARY KEY,
	first_name VARCHAR(50),
	last_name VARCHAR(50)
);

CREATE TABLE courses (
	course_id INT PRIMARY KEY,
	course_name VARCHAR(100)
);

CREATE TABLE enrollments (

	student_id INT,

	course_id INT,
```

```
    enrollment_date DATE,
    PRIMARY KEY (student_id, course_id),
    FOREIGN KEY (student_id) REFERENCES students (student_id),
    FOREIGN KEY (course_id) REFERENCES courses (course_id)
);

INSERT INTO students (student_id, first_name, last_name)
VALUES (1, 'Alice', 'Johnson');

INSERT INTO courses (course_id, course_name)
VALUES (101, 'Math 101');

INSERT INTO enrollments (student_id, course_id, enrollment_date)
VALUES (1, 101, '2023-09-01');

INSERT INTO enrollments (student_id, course_id, enrollment_date)
VALUES (1, 102, '2023-09-01');

-- SELF REFERENCING FOREIGN KEY

CREATE TABLE employees (
    employee_id INT PRIMARY KEY,
    first_name VARCHAR(50),
    last_name VARCHAR(50),
    manager_id INT
);

INSERT INTO employees (employee_id, first_name, last_name, manager_id)
VALUES (1, 'John', 'Doe', NULL);

INSERT INTO employees (employee_id, first_name, last_name, manager_id)
VALUES (2, 'Jane', 'Smith', 1);

INSERT INTO employees (employee_id, first_name, last_name, manager_id)
VALUES (3, 'Alice', 'Johnson', 99);
```

CHECK

NOTNULL

UNIQUE

PRIMARY KEY

DEFAULT

AUTO INCREMENT

FOREIGN KEY