

**Таблицы на языке SQL и работа с ними**

CREATE TABLE teachers (

id SERIAL PRIMARY KEY,

name TEXT NOT NULL

);

CREATE TABLE klasses (

name VARCHAR(64) PRIMARY KEY,

tutor\_id BIGINT UNSIGNED NOT NULL,

FOREIGN KEY (tutor\_id)

REFERENCES teachers (id)

ON DELETE CASCADE

);

CREATE TABLE students (

id SERIAL PRIMARY KEY,

name TEXT NOT NULL,

age SMALLINT NOT NULL,

klass\_name VARCHAR(64) NOT NULL,

FOREIGN KEY (klass\_name)

REFERENCES klasses (name)

ON DELETE CASCADE

);

CREATE TABLE subjects (

id SERIAL PRIMARY KEY,

name TEXT NOT NULL

);

CREATE TABLE study (

teacher\_id BIGINT UNSIGNED NOT NULL,

subject\_id BIGINT UNSIGNED NOT NULL,

klass\_name VARCHAR(64) NOT NULL,

FOREIGN KEY (teacher\_id)

REFERENCES teachers (id)

ON DELETE CASCADE,

FOREIGN KEY (subject\_id)

REFERENCES subjects (id)

ON DELETE CASCADE,

FOREIGN KEY (klass\_name)

REFERENCES klasses (name)

ON DELETE CASCADE,

PRIMARY KEY (teacher\_id, subject\_id, klass\_name)

);

INSERT INTO teachers (name)

VALUES ('Иванов'), ('Сидоров'), ('Петров');

INSERT INTO klasses (name, tutor\_id)

VALUES

('9К', 1),

('8Ж', 3);

INSERT INTO students (name, age, klass\_name)

VALUES

('Иван', 15, '9К'),

('Петр', 16, '9К'),

('Олег', 14, '8Ж'),

('Анна', 14, '8Ж');

INSERT INTO subjects (name)

VALUES

('Математика'),

('Русский язык'),

('Информатика');

INSERT INTO study (teacher\_id, subject\_id, klass\_name)

VALUES

(1, 2, '9К'),

(2, 3, '9К'),

(3, 1, '9К'),

(1, 2, '8Ж'),

(2, 1, '8Ж');

SELECT

s.name AS student\_name,

k.name AS klass\_name,

t.name AS tutor\_name

FROM students AS s

LEFT JOIN klasses AS k

ON s.klass\_name = k.name

LEFT JOIN teachers AS t

ON k.tutor\_id = t.id;

SELECT \* FROM teachers;

SELECT \* FROM students;

SELECT \* FROM study;

DELETE FROM klasses WHERE name = '9К';

SELECT \* FROM teachers;

SELECT \* FROM students;

SELECT \* FROM study;

EXPLAIN SELECT \* FROM study;



