**Create the database:**

CREATE TABLE department (

dep\_id SERIAL PRIMARY KEY,

department\_name VARCHAR(100) NOT NULL,

build\_number VARCHAR(50) NOT NULL,

boss VARCHAR(100) NOT NULL

);

CREATE TABLE build (

build\_id SERIAL PRIMARY KEY,

build\_number VARCHAR(50) NOT NULL,

build\_name VARCHAR(100),

build\_boss VARCHAR(100)

);

CREATE TABLE sub\_department (

sub\_dep\_id SERIAL PRIMARY KEY,

dep\_id INT NOT NULL,

name VARCHAR(100) NOT NULL,

years INT NOT NULL,

hours INT NOT NULL,

cost\_for\_hour INT NOT NULL,

boss VARCHAR(100) NOT NULL,

CONSTRAINT fk\_department FOREIGN KEY (dep\_id) REFERENCES department(dep\_id) ON DELETE CASCADE

);

CREATE TABLE student (

student\_id SERIAL PRIMARY KEY,

dep\_id INT NOT NULL,

sub\_dep\_id INT NOT NULL,

student\_name VARCHAR(100) NOT NULL,

email VARCHAR(100) UNIQUE NOT NULL,

enrollment\_date\_at\_uni DATE,

gender CHAR(1),

CONSTRAINT fk\_department FOREIGN KEY (dep\_id) REFERENCES department(dep\_id) ON DELETE CASCADE,

CONSTRAINT fk\_sub\_department FOREIGN KEY (sub\_dep\_id) REFERENCES sub\_department(sub\_dep\_id) ON DELETE CASCADE

);

CREATE TABLE course (

course\_id SERIAL PRIMARY KEY,

sub\_dep\_id INT NOT NULL,

name VARCHAR(100) NOT NULL,

code VARCHAR(30) NOT NULL,

lap\_or\_not VARCHAR(10) NOT NULL,

hours INT NOT NULL,

CONSTRAINT fk\_sub\_department FOREIGN KEY (sub\_dep\_id) REFERENCES sub\_department(sub\_dep\_id) ON DELETE CASCADE

);

CREATE TABLE file\_source (

file\_id SERIAL PRIMARY KEY,

course\_id INT NOT NULL,

file\_url TEXT NOT NULL,

description TEXT,

CONSTRAINT fk\_course FOREIGN KEY (course\_id) REFERENCES course(course\_id) ON DELETE CASCADE

);

CREATE TABLE doctor (

doctor\_id SERIAL PRIMARY KEY,

doctor\_name VARCHAR(100) NOT NULL,

office\_location VARCHAR(100),

years\_of\_experience INT,

gender CHAR(1)

);

CREATE TABLE certificate (

certificate\_id SERIAL PRIMARY KEY,

doctor\_id INT NOT NULL,

certificate\_name VARCHAR(100),

date\_of\_award DATE,

description TEXT,

CONSTRAINT fk\_doctor FOREIGN KEY (doctor\_id) REFERENCES doctor(doctor\_id) ON DELETE CASCADE

);

CREATE TABLE doctor\_sub\_department (

doctor\_id INT NOT NULL,

sub\_dep\_id INT NOT NULL,

CONSTRAINT fk\_doctor FOREIGN KEY (doctor\_id) REFERENCES doctor(doctor\_id) ON DELETE CASCADE,

CONSTRAINT fk\_sub\_department FOREIGN KEY (sub\_dep\_id) REFERENCES sub\_department(sub\_dep\_id) ON DELETE CASCADE,

PRIMARY KEY (doctor\_id, sub\_dep\_id)

);

CREATE TABLE day (

day\_id SERIAL PRIMARY KEY,

day\_name VARCHAR(50) NOT NULL

);

CREATE TABLE hall (

hall\_id SERIAL PRIMARY KEY,

build\_id INT NOT NULL,

hall\_number VARCHAR(50) NOT NULL,

CONSTRAINT fk\_build FOREIGN KEY (build\_id) REFERENCES build(build\_id) ON DELETE CASCADE

);

CREATE TABLE authentication (

student\_id INT PRIMARY KEY,

username VARCHAR(100) UNIQUE NOT NULL,

password VARCHAR(100) NOT NULL,

CONSTRAINT fk\_student FOREIGN KEY (student\_id) REFERENCES student(student\_id) ON DELETE CASCADE

);

CREATE TABLE class (

class\_id SERIAL PRIMARY KEY,

course\_id INT NOT NULL,

doctor\_id INT NOT NULL,

day\_id INT NOT NULL,

time\_in TIME,

time\_out TIME,

available\_seats INT,

hall\_id INT NOT NULL,

description TEXT,

CONSTRAINT unique\_schedule UNIQUE (course\_id, doctor\_id, day\_id, time\_in, time\_out),

CONSTRAINT fk\_course FOREIGN KEY (course\_id) REFERENCES course(course\_id) ON DELETE CASCADE,

CONSTRAINT fk\_doctor FOREIGN KEY (doctor\_id) REFERENCES doctor(doctor\_id) ON DELETE CASCADE,

CONSTRAINT fk\_day FOREIGN KEY (day\_id) REFERENCES day(day\_id) ON DELETE CASCADE,

CONSTRAINT fk\_hall FOREIGN KEY (hall\_id) REFERENCES hall(hall\_id) ON DELETE CASCADE

);

CREATE TABLE booking\_online (

booking\_online\_id SERIAL PRIMARY KEY,

class\_id INT NOT NULL,

student\_id INT NOT NULL,

CONSTRAINT fk\_class FOREIGN KEY (class\_id) REFERENCES class(class\_id) ON DELETE CASCADE,

CONSTRAINT fk\_student FOREIGN KEY (student\_id) REFERENCES student(student\_id) ON DELETE CASCADE

);

CREATE TABLE exam (

exam\_id SERIAL PRIMARY KEY,

booking\_online INT NOT NULL,

degree DECIMAL(5, 2),

exam\_type VARCHAR(50),

attend BOOLEAN,

CONSTRAINT fk\_booking\_online FOREIGN KEY (booking\_online) REFERENCES booking\_online(booking\_online\_id) ON DELETE CASCADE

);­­­­­