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CREATE SCHEMA IF NOT EXISTS swoosh;
--DROP TABLES in specific order to avoid foreign key issues
--Relationships
DROP TABLE IF EXISTS swoosh.ThumbsUp;
DROP TABLE IF EXISTS swoosh.Teaches;
DROP TABLE IF EXISTS swoosh.EnrolledIn;
DROP TABLE IF EXISTS swoosh.WatchedSegment;
DROP TABLE IF EXISTS swoosh.Watched;
DROP TABLE IF EXISTS swoosh.Attended;
--Entities
DROP TABLE IF EXISTS swoosh.PostTopics;
DROP TABLE IF EXISTS swoosh.Post;
DROP TABLE IF EXISTS swoosh.Recording;
DROP TABLE IF EXISTS swoosh.Meeting;
DROP TABLE IF EXISTS swoosh.Recurrence;
DROP TYPE IF EXISTS swoosh.week_days;
DROP TABLE IF EXISTS swoosh.Course;
DROP TABLE IF EXISTS swoosh.InstructorEducation;
DROP TABLE IF EXISTS swoosh.Instructor;
DROP TABLE IF EXISTS swoosh.Student;
DROP TABLE IF EXISTS swoosh.Users;

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-- Entities
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CREATE TABLE swoosh.Users (
    user_id text,
    email text NOT NULL,
    first_name text NOT NULL,
    last_name text NOT NULL,
    PRIMARY KEY(user_id)
);

CREATE TABLE swoosh.Student (
    user_id text,
    occupation text,
    PRIMARY KEY(user_id),
    --isA User
    FOREIGN KEY(user_id) REFERENCES swoosh.Users(user_id) ON DELETE CASCADE
);

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CREATE TABLE swoosh.Instructor (
    user_id text,
    title text,
    PRIMARY KEY(user_id),
    --isA User
    FOREIGN KEY(user_id) REFERENCES swoosh.Users(user_id) ON DELETE CASCADE
);

--Multivalued attribute "Education" of Instructor
CREATE TABLE swoosh.InstructorEducation (
    instructor_id text,
    education_id text,
    degree text,
    major text,
    school text,
    graduation_year integer,
    PRIMARY KEY(instructor_id, education_id),
    FOREIGN KEY(instructor_id) REFERENCES swoosh.Instructor(user_id) ON DELETE CASCADE
);

CREATE TABLE swoosh.Course (
    course_id text,
    course_name text NOT NULL,
    description text,
    PRIMARY KEY(course_id)
);

CREATE TYPE swoosh.week_days AS ENUM('Mon', 'Tue', 'Wed', 'Thu', 'Fri', 'Sat', 'Sun');

CREATE TABLE swoosh.Recurrence (
    recurr_id text,
    repeat_on week_days NOT NULL,
    end_date DATE NOT NULL,
    PRIMARY KEY(recurr_id)
);

CREATE TABLE swoosh.Meeting (
    meeting_id text,
    meeting_name text NOT NULL,
    passcode text,
    start_at timestamp NOT NULL,
    duration integer NOT NULL,
    mute_participants boolean NOT NULL,

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course_id text NOT NULL, -- Course--<Associated>--Meeting, total participation
instructor_id text NOT NULL, --Meeting--<HostedBy>--Instructor, total participation
recurr_id text, --Meeting--<RecursOn>--Recurrence
PRIMARY KEY(meeting_id),
FOREIGN KEY(course_id) REFERENCES swoosh.Course(course_id) ON DELETE CASCADE,
FOREIGN KEY(instructor_id) REFERENCES swoosh.Instructor(user_id) ON DELETE CASCADE,
FOREIGN KEY(recurr_id) REFERENCES swoosh.Recurrence(recurr_id) ON DELETE CASCADE
);

CREATE TABLE swoosh.Recording (
    recording_id text,
    start_time time,
    end_time time,
    meeting_id text NOT NULL, --Recording--<Recorded>--Meeting, total participation
    PRIMARY KEY(recording_id),
    FOREIGN KEY(meeting_id) REFERENCES swoosh.Meeting(meeting_id) ON DELETE CASCADE
);

CREATE TABLE swoosh.Post (
    post_id text,
    post_type text NOT NULL,
    body text,
    created_at timestamp NOT NULL,
    user_id text NOT NULL, -- Post--<PostedBy>--User, total participation
    meeting_id text NOT NULL, -- Post--<PostAbout>--Meeting, total participation
    replied_to_post_id text, -- Post--<RepliedTo>--Post
    PRIMARY KEY(post_id),
    FOREIGN KEY(user_id) REFERENCES swoosh.Users(user_id) ON DELETE CASCADE,
    FOREIGN KEY(meeting_id) REFERENCES swoosh.Meeting(meeting_id) ON DELETE CASCADE,
    FOREIGN KEY(replied_to_post_id) REFERENCES swoosh.Post(post_id) ON DELETE CASCADE
);

--Multi-valued attribute "topics" for Post
CREATE TABLE swoosh.PostTopics (
    post_id text,
    topic text,
    PRIMARY KEY(post_id, topic),
    FOREIGN KEY(post_id) REFERENCES swoosh.Post(post_id) ON DELETE CASCADE
);

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-- Relationships
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-- Student <-- Attended --> Meeting
CREATE TABLE swoosh.Attended(
    user_id text,
    meeting_id text,
    PRIMARY KEY(user_id, meeting_id),
    FOREIGN KEY(meeting_id) REFERENCES swoosh.Meeting(meeting_id) ON DELETE CASCADE,
    FOREIGN KEY(user_id) REFERENCES swoosh.Student(user_id) ON DELETE CASCADE
);

-- Student <-- Watched --> Recording
CREATE TABLE swoosh.Watched(
    recording_id text,
    user_id text,
    PRIMARY KEY(recording_id, user_id),
    FOREIGN KEY(user_id) REFERENCES swoosh.Student(user_id) ON DELETE CASCADE,
    FOREIGN KEY(recording_id) REFERENCES swoosh.Recording(recording_id) ON DELETE CASCADE
);

-- Watched Segment Multi-valued attribute
CREATE TABLE swoosh.WatchedSegment(
    recording_id text,
    user_id text,
    segment_id text,
    watched_from time NOT NULL,
    watched_to time NOT NULL,
    PRIMARY KEY(recording_id, user_id, segment_id),
    FOREIGN KEY(user_id, recording_id) REFERENCES swoosh.Watched(user_id, recording_id) ON DELETE
CASCADE
);

-- Student <-- EnrolledIn --> Course
CREATE TABLE swoosh.EnrolledIn(
    user_id text,
    course_id text,
    enroll_date date NOT NULL,
    PRIMARY KEY(user_id, course_id),
    FOREIGN KEY(user_id) REFERENCES swoosh.Student(user_id) ON DELETE CASCADE,
    FOREIGN KEY(course_id) REFERENCES swoosh.Course(course_id) ON DELETE CASCADE

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-- Instructor <-- Teaches --> Course
CREATE TABLE swoosh.Teaches(
    user_id text,
    course_id text,
    PRIMARY KEY(user_id, course_id),
    FOREIGN KEY(user_id) REFERENCES swoosh.Instructor(user_id) ON DELETE CASCADE,
    FOREIGN KEY(course_id) REFERENCES swoosh.Course(course_id) ON DELETE CASCADE
);

-- User <-- ThumbsUp --> Post
CREATE TABLE swoosh.ThumbsUp(
    user_id text,
    post_id text,
    PRIMARY KEY(user_id, post_id),
    FOREIGN KEY(user_id) REFERENCES swoosh.Users(user_id) ON DELETE CASCADE,
    FOREIGN KEY(post_id) REFERENCES swoosh.Post(post_id) ON DELETE CASCADE
);
```