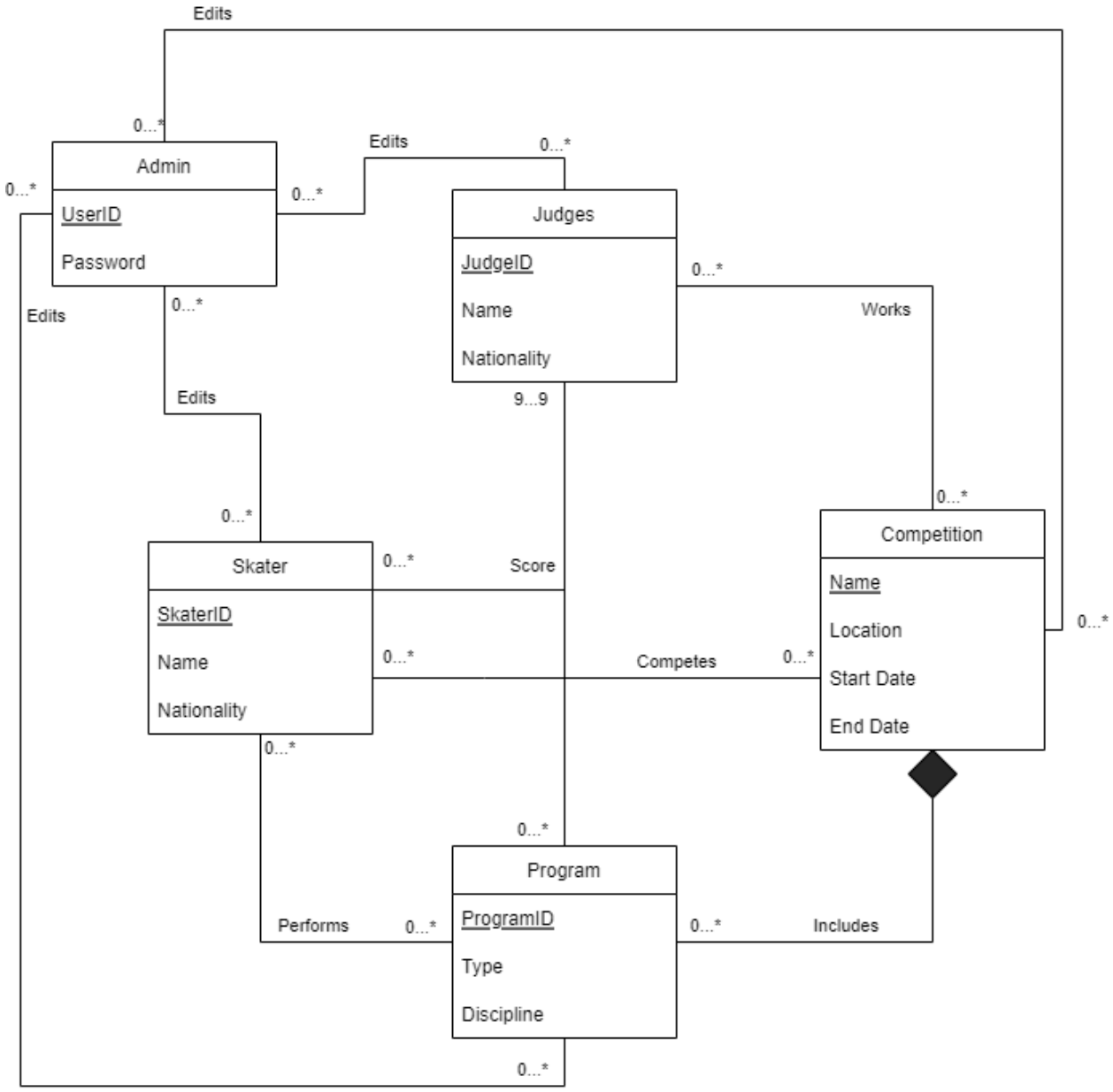

Description of each relationship and its cardinality

Skaters *participate (in)* Competitions

- A Skater can participate in 0 to many Competitions
- A Competition requires at least 1 Skater and can have multiple Skaters
- We are assuming that a Skater can appear in the database if they have not yet completed anywhere
- We are also assuming that a Competition can appear in the database if no Skaters have been assigned to the Competition (i.e. a Competition is scheduled many years in the future)

Skaters *perform* Programs

- A particular Program is performed by exactly 1 skater, but a skater can perform 0 to multiple Programs
- Specifically, Skaters are to perform 0 to 2 Programs per Competition

Judges *score* Programs at a specific Competition
- A Judge gives a particular score to exactly 1 Program
- Specifically, there will be 9 Judges that each give 1 Score each to a particular Program

Judges *work at* Competitions by giving scores to skaters
- A Judge can work in 0 to many Competitions
- A Competition can have 0 to many Judges working it
    - Similar reasoning as the Skaters example is used here; maybe a Competition is scheduled many years in advance and has no assigned Judges yet.

Admin *updates (the data for)* Competitions, Skaters, Programs, Judges
- An Admin can update the data for multiple Competitions, Skaters, Programs and Judges
- Info for Competition, Skater, Program and Judge can be updated by multiple Admins
- We are assuming that once a user has been granted Admin privileges, they have permissions to modify every entity without restrictions

Relational Schema
Competition(Name: VARCHAR(255) [PK], Location: VARCHAR(255), StartDate: DATE, EndDate: DATE)

Skater(SkaterID: INTEGER [PK], Name: VARCHAR(255), Nationality: VARCHAR(255))

Admin(UserID: VARCHAR(255), Password: VARCHAR(255))

Program(ProgramID: INTEGER [PK], CompetitionID: INTEGER [PK] [FK to Competition.CompetitionID], Type: VARCHAR(255), Discipline: VARCHAR(255))

Judge(JudgeID: INTEGER [PK], Name: VARCHAR(255), Nationality: VARCHAR(100))

Score(JudgeID: INTEGER [PK] [FK to Judge.JudgeID], ProgramID: INTEGER [PK] [FK to Program.ProgramID], SkaterID: INTEGER [PK] [FK to Skater.SkaterID])