

Person(id, first_name, last_name)

- Attribute constraints
 - first_name NOT NULL
 - last_name NOT NULL

Member(id, street_address1, street_address2, city, zip, member_type, relation_to)

- Attribute constraints
 - street_address1 NOT NULL
 - city NOT NULL
 - zip NOT NULL
 - member_type NOT NULL
- Domain constraints
 - member_type \in {'Undergrad_Student', 'Grad_Student', 'Faculty', 'Staff', 'Alumni', 'Family'}
- Inclusion dependencies
 - Member[id] \subseteq Person[id]
- Other constraints
 - If member_type = 'Family', relation_to NOT NULL

Employee(id, designation)

- Attribute constraints
 - designation NOT NULL
- Domain constraints
 - designation \in {'Trainer', 'Desk_Emp'}
- Inclusion dependencies
 - Employee[id] \subseteq Person[id]

EmployeeShift(shift_id, emp_id, work_day, start_time, end_time)

- Attribute constraints
 - emp_id NOT NULL
 - work_day NOT NULL
 - start_time NOT NULL
 - end_time NOT NULL
- Domain constraints
 - work_day \in {'Mon', 'Tue', 'Wed', 'Thu', 'Fri', 'Sat', 'Sun'}
- Inclusion dependencies
 - EmployeeShift[emp_id] \subseteq Employee[id]

PaymentInfo(member_id, payment_ref)

- Attribute constraints
 - payment_ref NOT NULL
- Inclusion dependencies
 - PaymentInfo[member_id] \subseteq Member[id]

Room(id, name, max_capacity)

- Attribute constraints
 - name NOT NULL
 - max_capacity NOT NULL
- Domain constraints
 - name $\in \{\text{'Front_Desk'}, \text{'Cardio'}, \text{'Weight'}, \text{'Pool'}, \text{'Yoga'}, \text{'Basketball_Court'}, \text{'Other'}\}$

Equipment(id, name, room_id, in_use, in_use_by)

- Attribute constraints
 - name NOT NULL
 - room_id NOT NULL
 - in_use NOT NULL
- Inclusion dependencies
 - Equipment[room_id] \subseteq Room[id]
 - Equipment[in_use_by] \subseteq Member[id]
- Other constraints
 - If in_use = TRUE, in_use_by NOT NULL

EntryLog(person_id, entry_time)

- Inclusion dependencies
 - EntryLog[person_id] \subseteq Person[id]

EmployeeExitLog(emp_id, entry_time)

- Inclusion dependencies
 - EmployeeExitLog[emp_id] \subseteq Employee[id]

LocationLog(person_id, room_id, entry_time)

- Inclusion dependencies
 - LocationLog[person_id] \subseteq Person[id]
 - LocationLog[room_id] \subseteq Room[id]

Event(id, name, room_id, max_capacity, start_time, end_time)

- Attribute constraints
 - name NOT NULL
 - room_id NOT NULL
 - max_capacity NOT NULL
 - start_time NOT NULL
 - end_time NOT NULL
- Inclusion dependencies
 - Event[room_id] \subseteq Room[id]
- Other constraints
 - The event's maximum capacity must not exceed the associated Room[max_capacity]

EventEnrollment(event_id, member_id)

- Inclusion dependencies
 - $\text{EventEnrollment}[\text{event_id}] \subseteq \text{Event}[\text{id}]$
 - $\text{EventEnrollment}[\text{member_id}] \subseteq \text{Member}[\text{id}]$
- Other constraints
 - The number of members enrolled in an event must not exceed $\text{Event}[\text{max_capacity}]$