COMP3005 final project 2

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Database design report

My database is pretty simple, with only 7 tables. My overall workload and time constraints have prevented me from making it more complex, but I hope it's enough. All tables store an ID value for each of their rows.

The first three, Members, Trainers, and Administrators, store the personal data for the people involved. All have a name, contact info, and a password. Members can also track their weight and goal, and they have a payment balance representing the cost of the classes they've taken. Trainers can set the times they clock in and out, assuming they're working five days a week.

Next is Rooms and Equipment. They both store their name, rooms also have a capacity, and equipment also has a maintenance entry.

The Bookings table is the largest. It stores an event name, date, start and end times, cost to attend, and optionally a trainer, room, and equipment type. Those last three are foreign keys to their respective tables.

Last is Registrations, which connects bookings with the members who are attending. Both of those values are foreign keys.

I tried to be efficient with my assumptions due to my previously mentioned time constraints. The three tables of people were obviously needed. Passwords seemed like a good idea for all roles as well, and simple to implement. I only added one fitness goal for members, a weight system that they can track themselves. Likewise, I interpreted the trainer schedules as their start and end times for the day. Because rooms and equipment can only be used by one group at once, they got their own tables as well. Rooms got a capacity in case of group events, and equipment got a maintenance note that the admins can manage. The bookings system is pretty generalized, able to handle both personal and group sessions, which are specified through the event type. Much of the info in the bookings table is to check for conflicts with other bookings, which is necessary if there are going to be multiple. The best way for multiple members to register for one event is a separate table for that.

Credit to the real-life Kaitlyn Warhurst for helping me come up with my other two example members, and the real-life Rayyan Sait for providing gym equipment examples.