**Assignment pair 17**

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**Gina’s Gym ERD Documentation:**

A screenshot of a computer

Description automatically generated

**Staff Entity:**

VARCHAR(8) StaffId (Primary Key) – Unique identifier for Gina’s gym staff

VARCHAR(255) FirstName (Required) – First name of the staff member

VARCHAR(255) LastName (Required) – Last name of the staff member

VARCHAR(50) Phone (Required) – The staff’s phone number

ENUM(‘Male’, ‘Female’) Gender (Required) – Staff member’s gender

VARCHAR(255) Address (Required) – The staff member's home address

VARCHAR(255) Email (Required) – Email address of staff member

VARCHAR(9) IRDNum (Required) – The staff member’s IRD number

VARCHAR(50) Position (Required) – The staff’s position in the workplace

DECIMAL(11,2) Salary (Required) (Required) – Staff’s yearly salary (Range: 0 – 99999999.99)

DATE BirthDate (Required) – The staff’s date of birth

**Member Entity:**

VARCHAR(8) MemberId (Primary Key) – Unique identifier for Gina’s gym members

VARCHAR(255) FirstName (Required) – First name of the corresponding gym member

VARCHAR(255) LastName (Required) – Last name of the corresponding gym member

VARCHAR(50) Phone (Required) – The member’s phone number

ENUM(‘Male’, ‘Female’) Gender (Required) – gym member’s gender

VARCHAR(255) Address (Required) – The member's home address

VARCHAR(255) Email (Required) – Email address of the gym member

ENUM(‘Full’, ‘Student’, ‘Senior’, ‘Special’)MembershipType (Required) – The type of gym membership, the member has

TIMESTAMP JoinDate (Required) – The date of member’s application to Gina’s gym membership

TIMESTAMP RenewDate (Required & Derived) – The due date of membership renewal (derived from PaymentDate, MembershipType, and JoinDate)

VARCHAR(500) Goals (Required & Multivalued) – The goals the member wants to achieve

BOOLEAN IsCardIssued (Required) – Determines whether the member card has been issues

DATE BirthDate (Optional) – The gym member’s date of birth

**Payment Entity:**

INT AUTO\_INCREMENT PaymentId (Primary Key)– The unique identifier for a specific payment

ENUM(‘Cash’, ‘EFTPOS’, ‘CreditCard’, ‘Internet’, ‘Other’) PaymentType (Required) – Type of payment used

DECIMAL(6,2) PaymentAmount (Required) – The payment amount excluding GST in NZD (Range: 0 – 9999.99)

DECIMAL(6,2) GST (Required) – The payment amount in NZD(Range: 0 – 9999.99)

DECIMAL(7,2) Total (Required, Derived) – Payment amount + GST in NZD (Range: 0-99999.99)

TIMESTAMP PaymentDate (Required) – Date of the payment

VARCHAR(255) Notes (Optional) – Additional information regarding the payment

**Exercise Entity (Weak Entity):**

VARCHAR(100) Name (Required) (Forms composite primary key with MemberId) – The name of the exercise

INT UNSIGNED Sets (Required) – The collection of reps of an exercise

INT UNSIGNED Reps (Required) – The amount of repetitions of an exercise

DECIMAL(4, 1)Weight (Required & NOT NULL) – The amount of weight used to perform an exercise, 0 if just bodyweight. (Range: 0 – 999.9) in kilograms

VARCHAR(255) Notes (Optional) – Additional information for the exercise

**Relationships:**

**Staff and Member Relationship (trainer):**

Staff member must trains one to many members

* Member must be trained by a staff member

**Member and Payment Relationship (pays for):**

* Member must pay for one to many payments
* For a given payment can only be from one member

**Member and Exercise Relationship (performs):**

* A member can perform zero to many exercises
* A given exercise is performed by one member
* An exercise cannot exist without a member (**Identifying Relationship)**

**Assumptions:**

* We selected the enum datatype for MembershipType, PaymentType and Gender to enforce data integrity by preventing incorrect data from being entered. MembershipType and PaymentType uses the types of data stated from the scenario.
* We selected int autoincrement for PaymentID for efficiency as we have varying payment types and assume that we don’t have another system maintaining unique primary keys for payment.
* If the weight for an exercise is assisted, the weight value will be 0, and it will be indicated at the exercise’s notes.
* Identifying relationship between Exercise and Member, as Exercise does not have a natural primary key as notes may be different from member to member. Also assume that Exercise allocation can be delayed after Member and Payment were inserted.
* Assume that the case where member details recorded by payment is delayed will be handled by client/software side or by office staff, Member and Payment will be inserted at the same time.

**Contributions:**

**Glen**

* Prototype ERD
* Documentation

**Beckham**

* Refined ERD
* Documentation