**ENTITIES & ATTRIBUTES**

*Domain of attributes are in ()*

* User: The main entity for the User
  + ID (0-∞): This is the identifier for the User entity. Given that many users could have the same name a unique ID will be generated for each one.
  + Name: the users name
  + Password: Password for the user is saved here
* Weight: It is connected to the user entity through the relationship of weighs. It is a weak entity because that is more intuitive that having each user of the same weight have that same weight entity. Additionally, it allows the database to expand in the future.
  + Weight (0-∞): The weight of the weight entity
  + Date & Time: used to identify when the weight was taken
* Workout: Connected to the user entity through the relationship “Works”. Each workout has a type, duration, and intensity. Then it has a unique entity ID to identify it because I was not sure how similar workouts would be. I was tempted to also make this a week entity, but I did not because of the requirement that the user can “search through a list of workouts” so they could be used by separate users.
  + ID (0-∞): The unique ID of the workout
  + Type: Type of workout
  + Intensity: Intensity of the workout
  + Date & Time: when the workout was done
* Meal: Connected to the user through the “eats” relationship. It is a week entity because each User will be logging their own meals and everyone will be unique in the database.
  + Date & Time: Used to store when a meal was eaten
  + ID: Used as a unique identifier for each meal
* Food/Beverage: Connected to the Meal entity through the relationship “contains”. I chose to make them the same entity given that they need the same attributes and they really are similar in the context of what a meal needs.
  + Name: Used to identify the name of the food/beverage
  + Grams Per Serving (1-∞): Self explanatory
  + Calories (1-∞): the calories ounce
* Micronutrient: Entity to contain all the micronutrients
  + Name: used to identify the micronutrient
  + Recommended Daily Dose (1-∞): Self explanatory

**RELATIONSHIPS**

* Weighs: A ternary relationship between “User”, “Weight”, and “Data”. Every time a user logs their date this relationship is used.
  + Cardinalities:
    - User (1,1): Since I made the weight a weak entity there could only be one user associated with it.
    - Weight (1,1): A user can weigh themselves many times.
* Works: Connects “User” and “Workout” logged every time a user completes a workout.
  + Cardinality:
    - User (1,1): Each workout is specific to the user that accomplishes them.
    - Workout (1,m): a single user can do multiple workouts
* Eats: Logged every time a user eats a meal and logs it
  + Cardinality:
    - User (1,1): Only one user will be logging each of their meals
    - Meal (1,m): a user can log many meals
* Contains (meal to food/beverage): Every item a meal contains will be related through this relationship.
  + Cardinality:
    - Meal (1,m): a meal can have many food and beverages
    - Food/Beverage (1,m): a food item can be in many meals
  + Intersection Data:
    - Amount: How much of a single food is in a meal
* Contains (Food/Beverage to Micronutrient): Every food will have micronutrients that will be connected through this relationship.
  + Cardinality:
    - Food/Beverage (1,m): a single food item can have many micronutrients.
    - Micronutrient (1,m): a micronutrient can be in many foods
  + Intersection Data:
    - Amount: The amount of a specific micro nutrient a food has.