Team Gio
Group Project
CSCI 466
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E.R. Diagram Description

- The user account entity is the start of the E.R. diagram
- We put two attributes from the user, being ID and name, with the ID being the identifier.
- From there, three relationships to other entities branch out. The first of which is “the user does workouts.”
- The cardinality between these is one to many because one user will do many workouts.
- The workout entity has several attributes being type, which is an identifier, intensity, duration, time, and calories burnt.
- The type attribute would include a list of different workouts that the user can look through and compare to the workout that they have just done.
- From the workout entity, it has the relationship “generates” with the graphs entity.
- This cardinality is many to many, as the data from many workouts can be used in many different graphs.
- Next, we have the relationship between entities “the user inputs weight.”
- The cardinality here is one to many because one user will input several weights over time and they will be stored for tracking progress.
- The weight entity has the attribute units, which is its identifier.
- The weight entity has the relationship “weight generates graph” with the graph entity.
- The cardinality here is many to many because several weights will be used in different graphs.
- The final relationship from the user account is “the user eats meals.”

- The cardinality is one to many because one user eats several meals that must be stored.
- The attributes of the meal entity includes time and amount of food/beverages consumed.
- From here, the relationship of “meals consist of food/beverages” occurs.
- The cardinality of this relationship is one to many because the one meal can consist of multiple different types and food and drinks.
- The sole attribute of food/beverages is the type of food/drink it is, and this is a key attribute.
- In the type of food or beverage, the user can search through all types of food and drinks so that they can plan their meals.
- From the food/beverage entity, there are two weak entities coming from the same relationship. The first of which is the relationship “food/beverage has micronutrients.”
- This cardinality is many to many because there can be multiple different food and drinks included and each can have several different micronutrients.
- This is a weak entity because its existence depends on what food and drinks were selected in the previous entity.
- The attributes of the micronutrients are quantity, and recommended daily value, with the identifier type.
- From the entity, the user is able to track their consumption of micronutrients over a period of time. The recommended daily value is able to compare with the amount eaten in a meal to tell how over or under the user went.
- The other relationship from food/beverage is “food beverage has macronutrients.”

- The cardinality is also many to many because the different foods and drinks can have different macronutrients.
- Similarly to micronutrients, this is a weak entity because it depends on what food/beverages were selected.
- The attributes that come from this entity are calories per serving and grams per serving, and it has the identifier type.
- Another relationship of the ER diagram that comes from the macronutrient entity is "macronutrients have a serving size."
- The cardinality is many to many because there can be many macronutrients that have different serving sizes.
- The serving size entity is weak because it depends on what macronutrients are looking to be examined.
- It has the attribute, serving size, which is also its identifier.
- There is a relationship of "macronutrients generates graphs."
- The cardinality is many to many because many macronutrients are used in many graphs.
- The graph entity is weak because it relies on other entities to get the information that is needed to build the graphs.
- The attributes of "graphs" are the graphs that will be made with it, which are a calories consumed per day graph, a graph that shows that number of calories burnt per day, a pie graph of the macronutrients the user ate in a given time, and a line graph of the user's weight over time.