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Description of ER Diagram Entities and Relationships

1. Employee: The employee entity represents an employee of the outdoor shop. The employees include supervisors, supervisees, sales clerks, and maintenance. Both maintenance and sales clerks are overlapping subclasses of employee.
    a. Supervises: The supervises relationship relates 1 supervisor to n supervisees. The supervisee references the supervisor's sid attribute
    b. Maintenance: Maintenance refers to someone who can maintain either a ski, snowboard, or mountain bike.
    c. Sales Clerk: A sales clerk is simply someone who sells an item in the store. Sales clerks have sales histories, which is a table relating to employee.
2. Maintains: The m:n relationship between the Maintenance Entity and the Item Entity represents the maintenance employees performing maintenance on items that are in the stock.
3. Sells: The 1:N relationship between Sales Clerk entity and Item Entity is to represent that one sales clerk may sell multiple items from the inventory stock.
4. Manages: The N:1 relationship between Sales Clerk entity and Inventory entity is meant to represent that a sales clerk employee might be the one to manage the inventory because they are the ones selling the items.
5. Inventory: The inventory entity is a representation of the 'warehouse' or 'storage' container to house all items being sold. It has both an item count attributed to it to keep track of the amount of items and a location of where the items are being stored.
6. Contains: The relationship between Inventory entity and Item entity is a 1:N relationship to represent that multiple items are stored inside our inventory, which has a location.
7. Customer: The customer entity represents a customer of the outdoor shop. The shop stores the customer's email address and phone number to contact them in case of problems with purchases, and also their name in order to keep records of purchases.
8. Buys: The 1:n buys relationship models a customer buying an item from the store. One customer can buy n amount of items.
9. Rents: The 1:n rents relationship models a customer renting an item over a period of time. A single customer can rent any number of items.

10. Item: The item entity represents an item within the store's inventory. The type attribute represents the name and model of the item. IID models a unique item id. Price holds the price. Rating holds the user reviews of the item. Rental History is derived from the rents relationship.
    a. Snowboard: The snowboard entity is one of our primary three items that can be sold to a customer from our inventory. It has a length attributed to it meant to distinguish between child and adult sizes, and rider skill levels. It also has a camber attribute which is meant for different response times depending on the riders level of skill.
    b. Ski: The ski entity represents a ski that is sold by the outdoor shop. The ski has both length and width attributes to differentiate based on what certain rider skill levels would want to buy.
    c. Bike: The Bike entity represents a bike that can be bought or rented by a customer. It inherits from the item superclass. The tire size attribute represents the tire size of the bike. The front suspension attribute represents the brand/make of the front suspension, and the rear suspension represents the brand/make of the rear suspension.