Project Report 1

Group members: Andrew Gould, Yuelin Xie

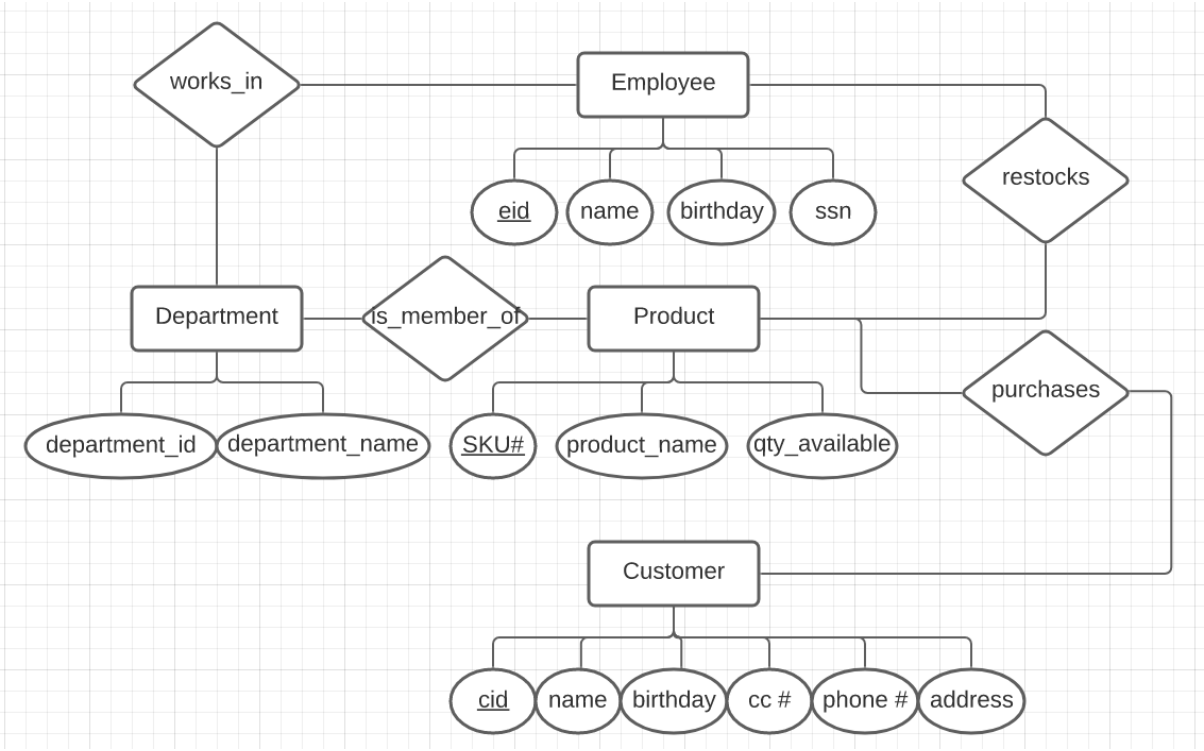
1. **Introduction**: what is your scenario (describe your mini-world)?

   Our scenario is equivalent to the inventory, employee, and customer management software that is required to operate most retail stores. By keeping a database full of all of these details, we can provide many different insights about the state of the store, like what needs to be ordered, what customers are buying, and where to allocate marketing budgets.

2. **Requirements analysis (be brief)**: what is your data? What are the constraints? What are the operations?

   Data: customer's name, customer's order ID, customer's address, customer's phone number, customer's credit card number, employee's name, employee's ID, employee's SSN, employee's birthday, employee's department, product's name, product's SKU#, product quantity available, department ID, department name.
   Constraints: Each employee has an unique id. Each product has its own SKU number. A unique identifier for a user is their id. Each employee serves a different department.
   Operations: Different products in different departments. Employees' job is to restock the product, and each of them works in a different department. Customers purchase the products.

3. **Conceptual design**: ER-diagram and constraints



4. **Logical design**: convert your ER diagram to relational schemas. Normalize your relations, if needed.

   DEPARTMENT(did, name)
   PRODUCT(SKU, name, quantity, department_id)
   CUSTOMER(cid, name, birthday, cc_number)
   EMPLOYEE(eid, name, birthday, ssn, department_id)