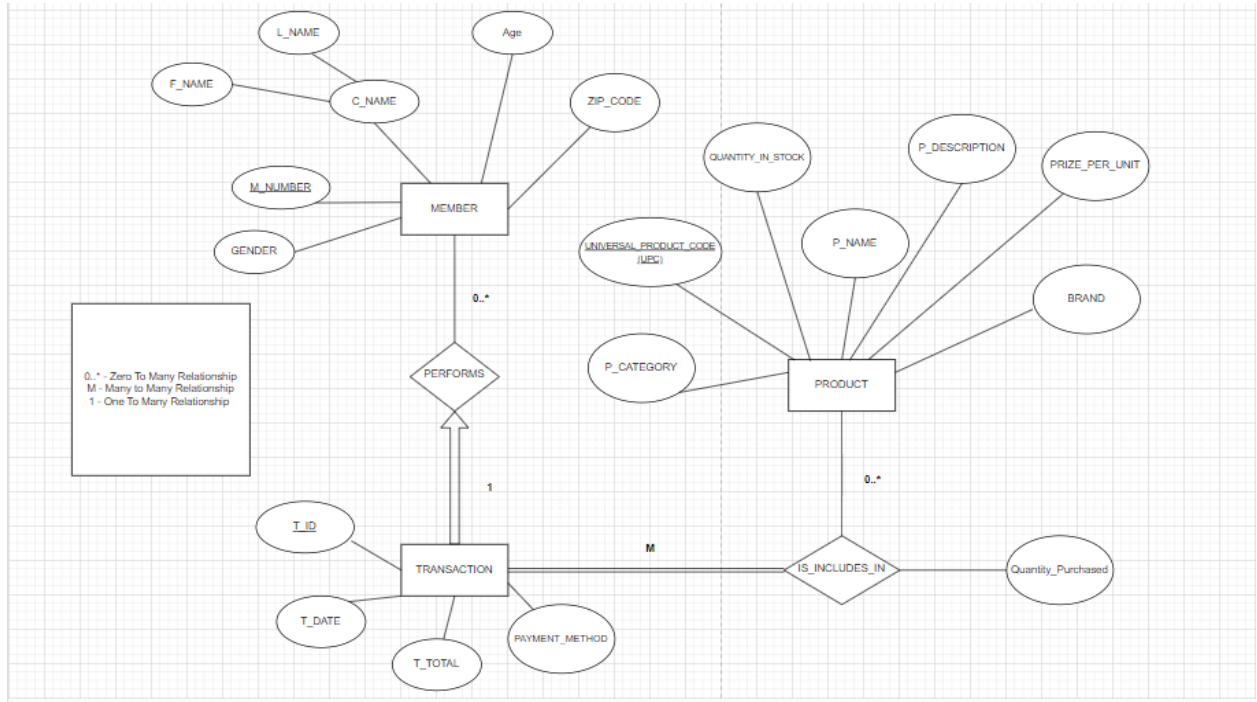


CS550 Fall 2024 Project 1-Part 1

NAME :- RUCHITA DARUR

GNUMBER:- G01514822

ER-DIAGRAM:-



All The **ENTITY SETS**

- MEMBER
- PRODUCTS
- TRANSACTION

RELATIONSHIP SETS from the relationships in the ER diagram:

- **PERFORMS:** This indicates that a member completes a transaction by connecting the MEMBER and TRANSACTION entities.
- **IS_INCLUDES_IN:** Connects the PRODUCTS and TRANSACTION entities, signifying that products are a part of the transaction.

CARDINALITY RATIOS for the relationships in the ER diagram:

- 1 to 0..*:- One Member can perform Zero or Many Transaction, but each transaction is performed by exactly one member.

- M to 0..*:- One Transactions can include many products, and a product can be included in many transactions, but it's possible that a product may not be included in any transaction.

In the ER diagram, the following **PARTICIPATIONS** are shown:

1. PERFORMS (between MEMBER and TRANSACTION):
 - MEMBER: Full Participation (A member may not execute any transactions, but they must perform each one).
 - TRANSACTION: Partial Participation: Only one person is required to complete a transaction.
2. IS_INCLUDES_IN (between PRODUCTS and TRANSACTION):
 - PRODUCTS: Partial Participation (A transaction may or may not involve a product).
 - TRANSACTION: Full Participation (A minimum of one product must be included in each transaction)

Here are the **ATTRIBUTES** for each entity set in the ER diagram

1. MEMBER:
 - F_NAME (First Name)
 - L_NAME (Last Name)
 - C_NAME (Customer Name)
 - AGE
 - ZIP_CODE
 - M_NUMBER (Member Number)
 - GENDER
2. PRODUCT:
 - UNIVERSAL_PRODUCT_CODE (UPC)
 - P_NAME (Product Name)
 - P_DESCRIPTION (Product Description)
 - P_CATEGORY (Product Category)
 - BRAND
 - PRIZE_PER_UNIT
 - QUANTITY_IN_STOCK
3. TRANSACTION:
 - T_ID (Transaction ID)
 - T_DATE (Transaction Date)
 - T_TOTAL (Transaction Total)
 - PAYMENT_METHOD

The **PRIMARY KEYS** for each entity set in the ER diagram:

1. MEMBER:
M_NUMBER*(Member Number) – Serves as the unique identifier for every member.
2. PRODUCTS:
UNIVERSAL_PRODUCT_CODE (UPC) – Acts as the unique identifier for each product.
3. TRANSACTION:
T_ID (Transaction ID) – Unique identifier for each transaction.