

# **ER Modeling Exercise**

**Business requirements given –**

**Create an ER database model and map it into a relational schema**

**(Gym Fitness)**

# Gym Fitness Database: Requirements

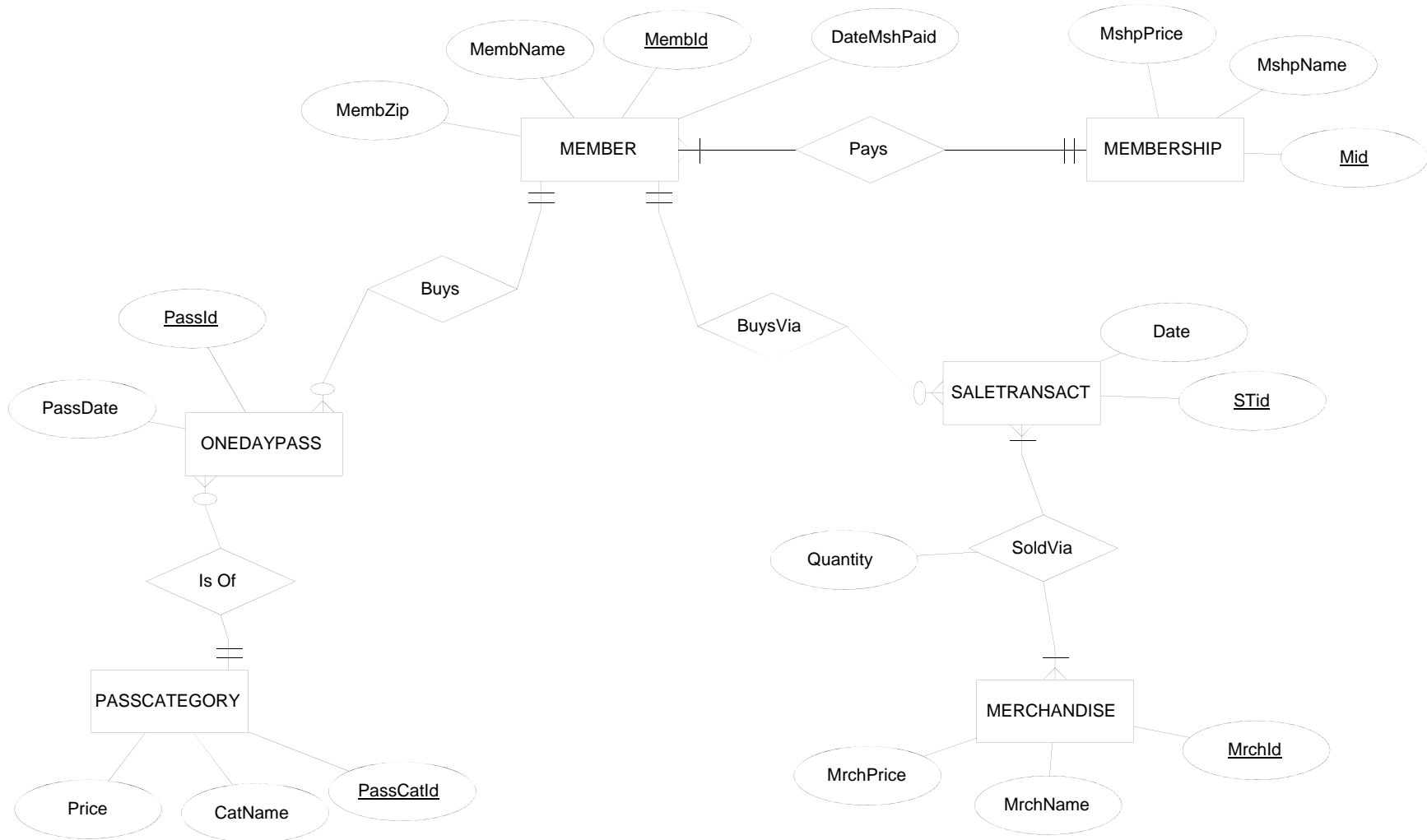
*The following are the requirements for the Gym Fitness Database*

- For each MEMBER we keep track of the unique *MemdID*, as well as *Name*, *Zip*, and the *Date* the membership was paid
- For each MEMBERSHIP type we keep track of the unique *Mid*, as well as *MName* and *Price*
- For each PASS CATEGORY we keep track of the unique *PassCatID*, as well as *PCName* and *Price*
- For each ONE DAY PASS we keep track of the unique *PassID* and *Date*
- For each MERCHANDISE item we keep track of the unique *MrchID*, as well as *Name* and *Price*
- For each sale TRANSACTION we keep track of the unique *Tid* and *Date*
- Each member pays for exactly one membership type; each membership type has at least one member but can have many members
- Each member can buy many day passes but does not have to buy any, each day pass was bought by exactly one member
- Each day pass belongs to exactly one pass category; a pass category can have many individual day passes issued for it but does not have to have any
- Each sale transaction involves exactly one member; each member can be involved in many sale transactions but does not have to be involved in any
- Each merchandise item is sold via at least one sale transaction but it can be sold via many sale transactions; each sale transaction involves at least one merchandise item but can involve many merchandise items
- Every time a merchandise item is sold via a sale transaction, we keep track of the quantity (how many instances of that particular merchandise item were sold via that particular sale transaction)

*Your task is to create and ER Diagram based on these requirements and then map it into a Relational Schema*

# Solution

## Gym Fitness Database: ER Diagram



# Solution

## Gym Fitness Database: Relational Schema

