

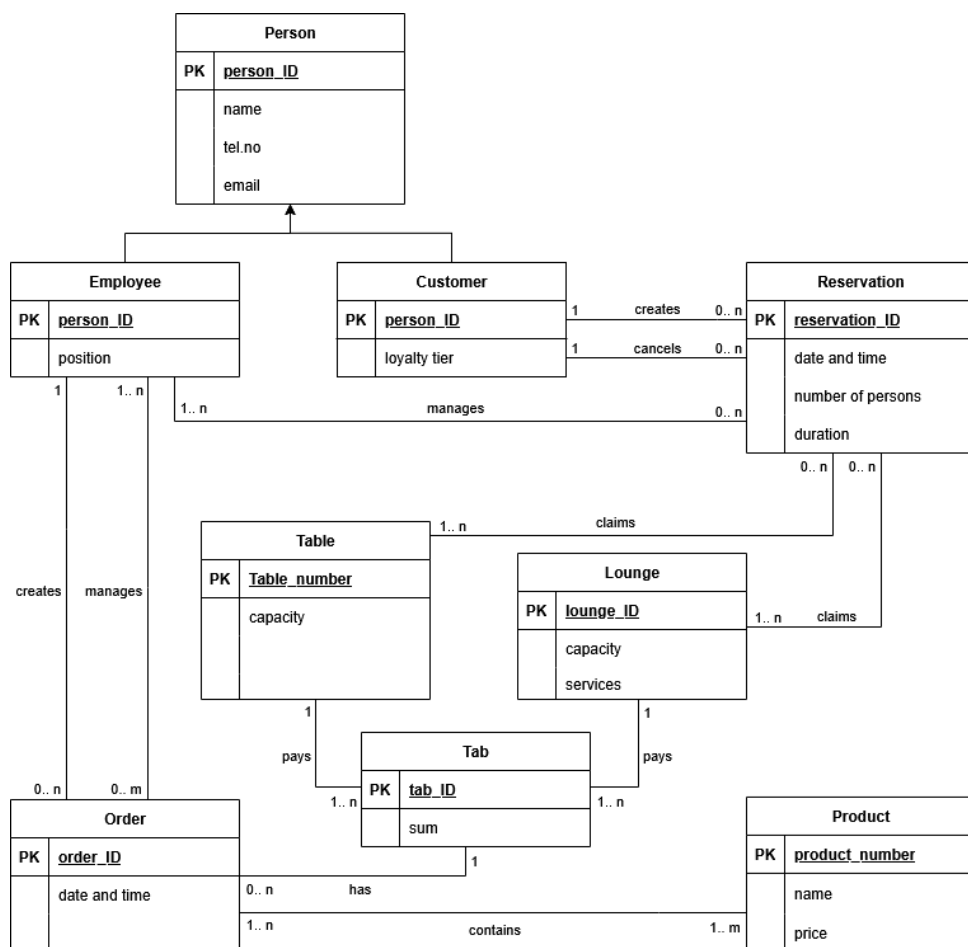
# IDS – Diagrams

## Selected Topic No. 13: Restaurant

Jaroslav Mervart, Jan Hájek

March 2025

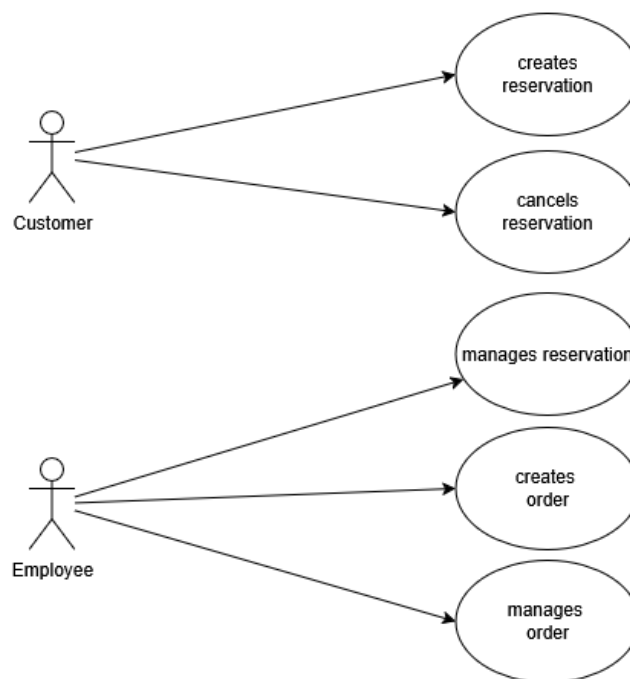
### 1 Entity relation diagram



- **Person** is a generalization of entities customer and employee, from which they inherit attributes **name**, **telephone number**, and **email**. Person must be either customer or an employee – total specialization.
- **Employee** can **create** and **manage** multiple orders and reservations. Multiple employees can manage the same orders and reservations, and a single employee can create as many orders as needed.
- **Customer** is able to **create** and **cancel** reservations. The attribute **loyalty tier** allows a customer to collect loyalty points.
- **Reservation** can be created for either lounge or a table. A reservation can **claim** multiple tables or lounges, and multiple orders can claim the same tables/lounges. The attributes **date and time** and **duration** ensure that no conflicts occur

- **Order** contains attribute **date** and **time**, used for determining the importance of the order. Order must **contain** at least one product and multiple orders can contain the same products.
- **Tab** contains only one attribute: **sum**. It represents the total price of the products in every order that the tab **has**.
- **Product** is defined by its *product\_number* to differentiate between the same product offered in different quantities. It also has attributes **price** and **name**.
- **Lounge** offers different **services** (chosen during reservation) and has a **capacity**. A lounge must have at least one tab. Multiple tabs are allowed if customers want to split the bill.
- **Table** is similar to a lounge, except it does not offer **services**.

## 2 Use case diagram



- Customer can:
  - **create** a reservation.
  - **cancel** an existing reservation.
  - Note: Customers cannot modify reservations once created, as it would require higher system overhead.
- Employee can:
  - **manage** reservations – reserved for exceptional cases.
  - **create** new orders.
  - **manage** existing orders.
  - Note: Multiple employees may manage the same orders or reservations when necessary.