

Domain description

We have made an administrative information system for a cinema chain. In addition to showing movies, the branches of this cinema chain have shops where they sell snacks/drinks. Each branch has multiple halls where different movies will be played. The movies may have different editions for different languages and subtitles. The database stores the following information for the cinema chain:

- Movie: movie id, title, director, genre, description, country of origin, viewing age.
- Movie edition: movie edition id, movie id, language, subtitle language, type (for example 2D, 3D or IMAX), duration, start date, end date.
- Hall: hall id, Hall number, type, branche id.
- Seat: seat id, hall id, seat number, disabled place, seat row.
- Person: first name, last name, email address
- Customer: customer id, paying details, email address.
- Employee: employee id, payment details, email address.
- Contract: contract id, employee id, start date, end date, salary, branch id, job function.
- Showing: showing id, movie edition id, datetime, hall id.
- Reservation: reservation id, customer id, showing id, seat id, payment status.
- Product: product id, product name, price, allergen information.
- Product Stock: product id, branch id, amount.
- Branch: branch id, name, address

The system meets the following requirements:

- Each movie edition is connected to exactly one movie.
- Each hall is connected to exactly one branch.
- Each seat is connected to exactly one hall.
- There are not multiple people with the same email address.
- Each customer is connected to exactly one person.
- There are no multiple instances of the same person in the customer table.
- Each employee is connected to exactly one person.
- There are no multiple instances of the same person in the employee table.
- Each contract is connected to exactly one employee.
- Each reservation has exactly one existing seat, customer and showing.
- There are not two reservations on the same seat for the same showing.
- There are not multiple showings in the same hall at the same moment.
- The product stock is connected to an existing branch.
- The product stock only has products that exist in the product table.
- There are not multiple tuples with the same combination of product and branch in the product stock.
- Each showing is in a hall with the same type as the film edition type.