Step 1: Identify all the entities in the system (the key, weak, associative entities).

1. User (key entity)
2. Hotel (key entity)
3. HotelRating (key entity)
4. Rocket (key entity)
5. RocketTrip (key entity)
6. Room (key entity)
7. Activity (key entity)
8. RoomBooking (key entity)
9. ActivityBooking (key entity)
10. Order (key entity)
11. RocketTrip_User (associative entity)

Step 2: Identify relationships between the entities.

Hotel → Room: 1 to many

Hotel → Rating: 1 to many

User → Order: 1 to many

Hotel → Activity: 1 to many

RoomBooking → Room: many to 1

ActivityBooking → Activity: many to 1

Order → RoomBooking: 1 to many

Order → ActivityBooking: 1 to many

User → RocketTrip: many to many

Rocket → RocketTrip: 1 to many

Step 3: Identify cardinality and ordinality of the relationships.

Hotel → Room:

- **Cardinality:** 1 hotel → many rooms (1...N).
- **Ordinality:** A hotel must have at least 1 room (mandatory, minimum 1).

Room → Hotel:

- **Cardinality:** Many rooms → 1 hotel (N...1).
- **Ordinality:** A Room belongs to exactly 1 hotel (mandatory, min/max 1).

User → Order:

- **Cardinality:** 1 user → many orders (1...N).
- **Ordinality:** A user can have 0 or many orders (optional, minimum 0).

Hotel → HotelRating:

- **Cardinality:** 1 hotel → many HotelRatings (1...N).
- **Ordinality:** A hotel can have 0 or more HotelRating (optional, minimum 0).

HotelRating → Hotel:

- **Cardinality:** many HotelRating → 1 hotel (N...1).
- **Ordinality:** A HotelRating must have exactly 1 hotel (mandatory, min/max 1).

Hotel → Activity:

- **Cardinality:** 1 hotel → many activity (1...N).
- **Ordinality:** A hotel must have at least 1 activity (mandatory, minimum 1).

Activity → Hotel:

- **Cardinality:** many activity → 1 hotel (N...1).
- **Ordinality:** An activity must have exactly 1 hotel (mandatory, min/max 1).

RoomBooking → Room:

- **Cardinality:** many RoomBooking → 1 room (N...1).
- **Ordinality:** A RoomBooking must have exactly 1 room (mandatory, min/max 1).

Room → RoomBooking:

- **Cardinality:** 1 Room → many RoomBooking (1...N).
- **Ordinality:** A Room can have 0 or many RoomBookings (optional, minimum 0).

ActivityBooking → Activity:

- **Cardinality:** many ActivityBooking → 1 activity (N...1).
- **Ordinality:** An ActivityBooking must have exactly 1 activity (mandatory, min/max 1).

Activity → ActivityBooking:

- **Cardinality:** 1 Activity → many ActivityBooking (1...N).
- **Ordinality:** An Activity can have 0 or more ActivityBooking (optional, minimum 0).

Order → User:

- **Cardinality:** many Order → 1 user (N...1).
- **Ordinality:** An order must have exactly 1 user (mandatory, min/max 1).

Order → RoomBooking:

- **Cardinality:** 1 Order → many RoomBooking (1...N).
- **Ordinality:** An order must have at least 1 RoomBooking (mandatory, minimum 1).

RoomBooking → Order:

- **Cardinality:** many RoomBooking → 1 Order (N...1).
- **Ordinality:** A RoomBooking must have exactly 1 Order (mandatory, min/max 1).

Order → ActivityBooking:

- **Cardinality:** 1 Order → many ActivityBooking (1...N).
- **Ordinality:** An order can have 0 or many ActivityBooking (optional, minimum 0).

ActivityBooking → Order:

- **Cardinality:** many ActivityBooking → 1 Order (N...1).
- **Ordinality:** An ActivityBooking must have exactly 1 Order (mandatory, min/max 1).

RocketTrip → User:

- **Cardinality:** many RocketTrip → many User (N...N).
- **Ordinality:** A RocketTrip must have at least 1 User (mandatory, minimum 1).

User → RocketTrip:

- **Cardinality:** many User → many RocketTrips (N...N).
- **Ordinality:** A User can have 0 or many RocketTrips (optional, minimum 0).

RocketTrip → Rocket:

- **Cardinality:** many RocketTrip → 1 Rocket (N...1).
- **Ordinality:** A RocketTrip must have exactly 1 Rocket (mandatory, min/max 1).

Rocket → RocketTrip:

- **Cardinality:** 1 Rocket → many RocketTrips (1...N).
- **Ordinality:** A Rocket can have 0 or more RocketTrips (optional, minimum 0).

Step 4: Add attributes for the entities (the key, weak key, derived, multivalued attributes).

User

Attribute	Type
id	PK
firstName	VARCHAR
lastName	VARCHAR
email	VARCHAR
password	VARCHAR
role	VARCHAR
enabled	BOOLEAN

Hotel

Attribute	Type
id	PK
name	VARCHAR
email	VARCHAR
description	VARCHAR
rating	DOUBLE (derived)

Rocket

Attribute	Type
id	PK
launchDay	VARCHAR
launchTime	VARCHAR
seatsTotal	INT
seatsTaken	INT (derived)

RocketTrip

Attribute	Type
id	PK
launchExactTime	DATETIME (derived)
rocket-id	FK

Room

Attribute	Type
id	PK
roomNumber	INT
capacity	INT
price	DOUBLE
hotel-id	FK

Activity

Attribute	Type
id	PK
name	VARCHAR
duration	TIME
hotel-id	FK
price	DOUBLE

RoomBooking

Attribute	Type
id	PK
room-id	FK
checkInDate	DATETIME
checkOutDate	DATETIME
order-id	FK

ActivityBooking

Attribute	Type
id	PK
activity-id	FK
date	DATETIME
order-id	FK

Order

Attribute	Type
id	PK
user-id	FK
totalPrice	DOUBLE (derived)
orderDate	DATETIME

RocketTrip_User

Attribute	Type
id	PK
rocketTrip-id	FK
user-id	FK
seatNumber	INT

HotelRating

Attribute	Type
id	PK
hotel-id	FK
user-id	FK
rating	INT
comment	VARCHAR