1. The following tables form part of a database held in a relational DBMS:

   Hotel (hotelNo, hotelName, city)

   Room (roomNo, hotelNo, type, price)

   Booking (hotelNo, guestNo, dateFrom, dateTo, roomNo)

   Guest (guestNo, guestName, guestAddress)

   a. Identify the foreign keys in this schema
      a. hotelNo, guestNo,
   b. Explain how the entity and referential integrity rules apply to these relations.

      The entity rules are constraints that applies on primary keys. Every primary key must contain a unique, nonnull value for each row. For example, hotel, room, booking, and guest tables has its own unique keys (underlined above). This integrity rules used to protect the database from becoming inconsistence.

   c. Produce some sample tables for these relations that observe the relational integrity rules
      See below.
   d. Suggest some general constraints that would be appropriate for this schema
      The use of check and unique can be added to the primary keys and check for specific column like dateFrom
   e. Analyze MySQL and Implement the above schema in your mysql RDBMS

```
create schema if not exists `reservation`;
use reservation;
create table `reservation`.`hotel`(
        `hotelNo` char(5) not null,
         `hotelName` varchar(40) not null,
         `city` varchar(40) not null,
        primary key (`hotelNo`)
);
  create table `reservation`.`room` (
        `roomNo` char(5) not null,
        `hotelNo`char(5) not null,
        `type` varchar(40) not null ,
        `price` decimal (10, 2),
         primary key (`hotelNo`, `roomNo`),
        foreign key(`hotelNo`) references hotel(`hotelNo`) on update  cascade
        on delete cascade
```

```
);

create table `reservation`.`booking` (
	`hotelNo` char(5) not null,
	`guestNo` char(5) not null,
	`dateFrom` date not null,
	`dateTo` date default null,
	`roomNo` char(5) not null,
	primary key(`hotelNo`, `guestNo`, `dateFrom`),
	foreign key(`hotelNo`) references room(`hotelNo`) on update cascade
on delete cascade,
	foreign key(`hotelNo`) references hotel(`hotelNo`) on update cascade
on delete cascade

    );

create table `reservation`.`guest` (
	`guestNo` char(5) not null,
	`guestName` varchar(45) not null ,
	`guestAddress` varchar (45) not null,
	primary key(`guestNo`),
	foreign key (`guestNo`) references booking(`guestNo`) on update cascade
on delete cascade
);
```