GUEST HOUSE

Name : Mothe Rohith
Roll No.: 1901CS37

EntitySet:

1. Guest: we store information of the guest like username, password, name, mobile no, Email_id

2.Room: we maintain the room specifications like room_no, room_type, max occupancy, cost in this table

3.Expenditure: In this we enter the values of the bills(expenses) on respective day like
--like electricity bills, food bills, WIFI etc

4.Staff: Details of staff who works in the guest house

5.Food: Food items present in guesthouse with food_id as primary key

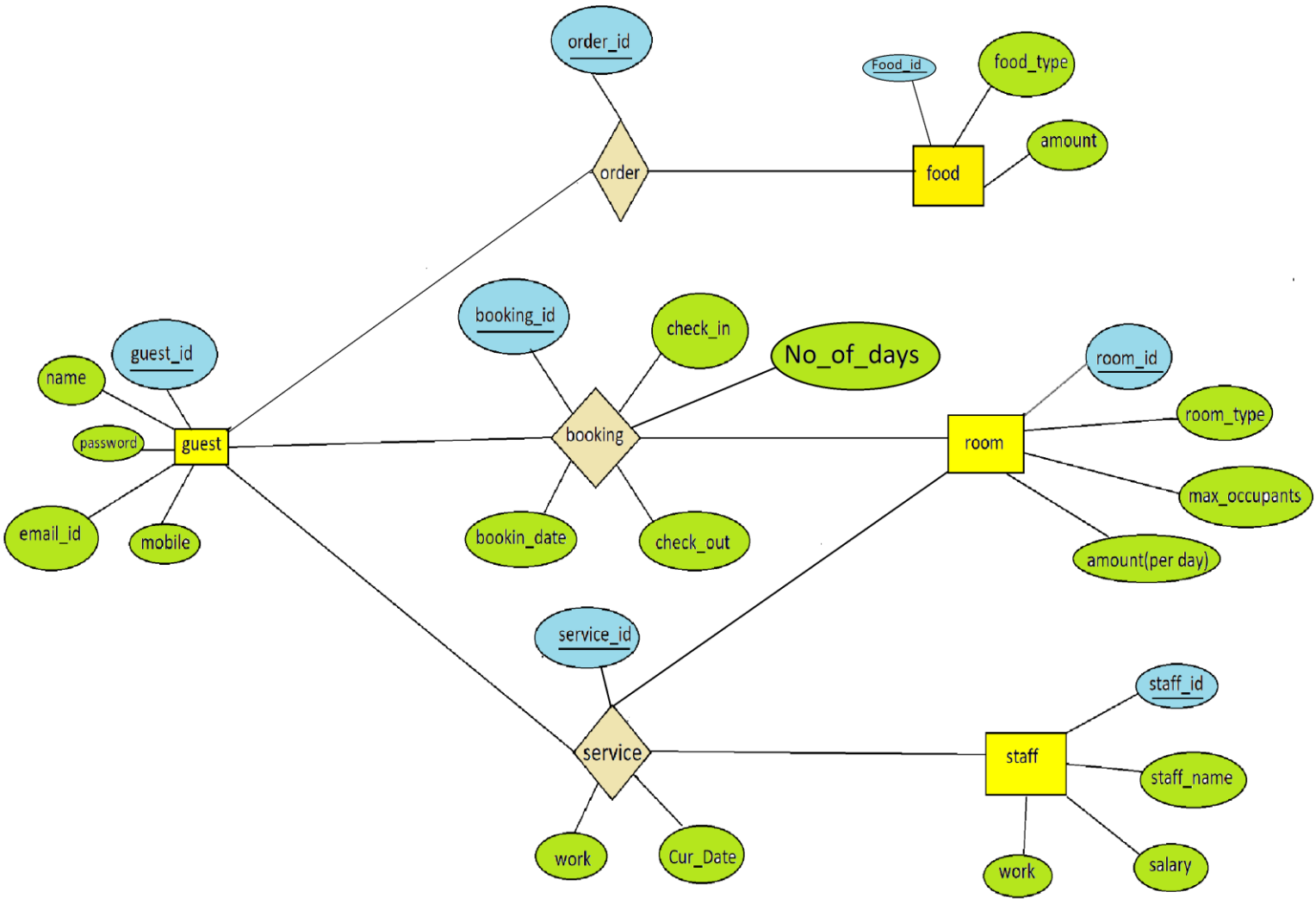
Relations:

1.Booking(relation): Taking general situation one user can any no. of rooms and one room can be booked by any no. of guests (after checked out) {guest, room}

2.Order(relation): It is a many to many relation and we assume there is no condition that room booking must be done to order food (order_id as primary key)
(Assuming outsiders can also buy) {guest, food}

3.Service(relation): it is ternary relationship with many to many relations with each other {staff, guest, room}

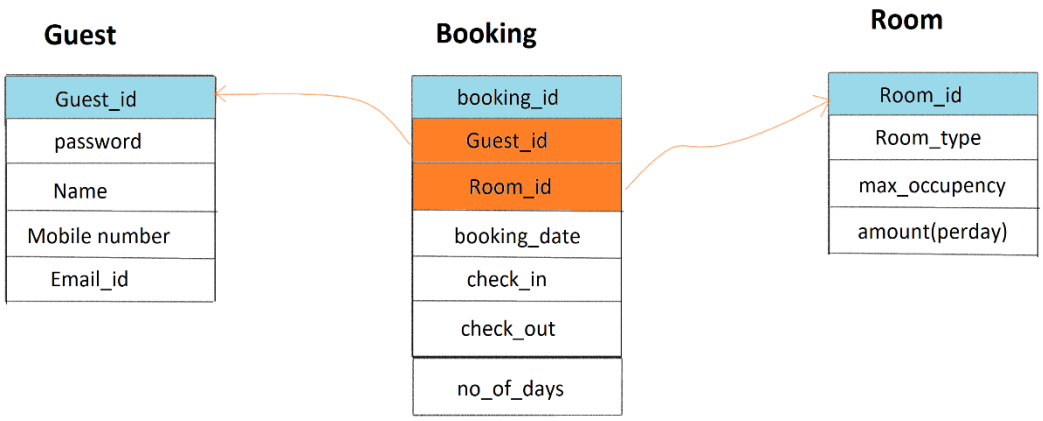
1.E-R Diagram


order_id
Food_id
food_type
amount
order
food
booking_id
check_in
No_of_days
guest_id
name
password
guest
booking
room
room_id
room_type
max_occupants
email_id
mobile
bookin_date
check_out
amount(per day)
service_id
staff_id
service
staff
staff_name
work
Cur_Date
work
salary

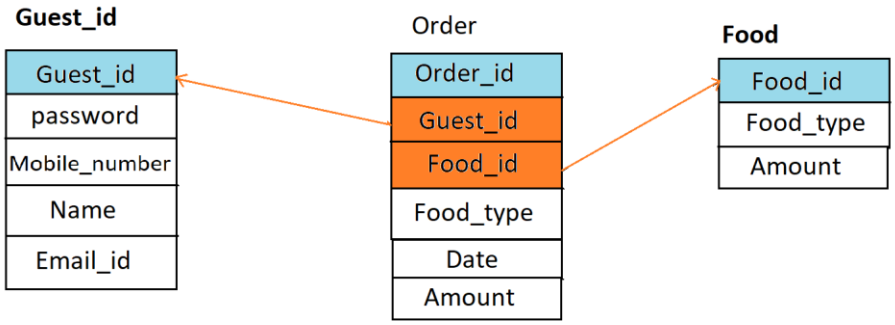
2.Relational Schema

blue->primary key
orange->foreign key

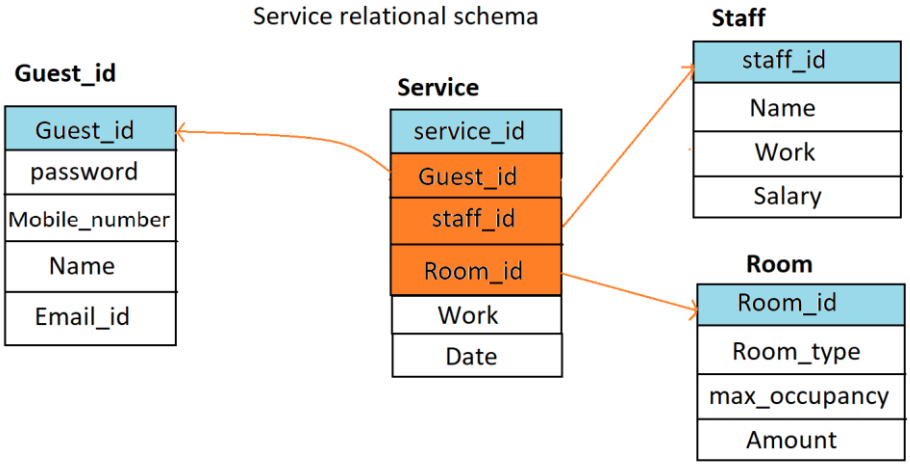
Room Booking by guest house relational schema



Food_order Relational schema



Service relational schema



MySQL queries for above

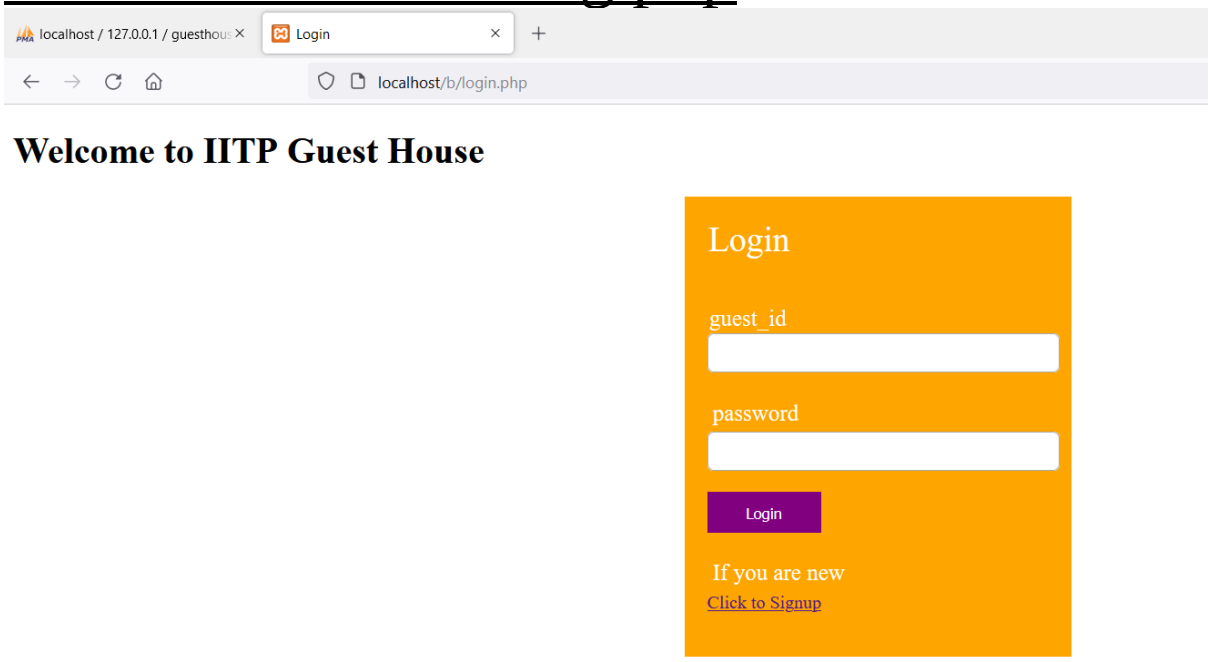
```
CREATE TABLE `guest` ( `guest_id` varchar(30) NOT NULL, `password` varchar(10) NOT NULL,
`name` varchar(20) NOT NULL, `mobile_number` int(11) NOT NULL, `email_id` varchar(30) NOT NULL);


CREATE TABLE `room` ( `room_id` int(11) NOT NULL, `room_type` varchar(20) NOT NULL,
`max_ocupancy` int(11) NOT NULL,`amount` int(11) NOT NULL);

CREATE TABLE `expenditure` (`exp_id` int(20) NOT NULL,`date` date NOT NULL,`expense_type`
varchar(30) NOT NULL,`amount` int(11) NOT NULL);

CREATE TABLE `booking` (`booking_id` int(20) NOT NULL,`guest_id` varchar(30) NOT NULL,
`room_id` int(11) NOT NULL,`booking_date` date NOT NULL,`check_in` date NOT NULL,`check_out` date
NOT NULL,`no_of_days` int(11) NOT NULL);

CREATE TABLE `food` (`food_id` int(10) NOT NULL,`guest_id` varchar(30) NOT NULL,`food_type`
varchar(10) NOT NULL,amount` int(11) NOT NULL,`cur_date` date NOT NULL);

CREATE TABLE `order_lab` (`order_id` int(10) NOT NULL,`food_id` int(10) NOT NULL,
`guest_id` varchar(30) NOT NULL,`food_type` varchar(10) NOT NULL,`amount` int(11) NOT NULL,
`cur_date` date NOT NULL);

CREATE TABLE `service` (`service_id` int(10) NOT NULL,`staff_id` int(11) NOT NULL,
`guest_id` varchar(30) NOT NULL,`room_id` int(11) NOT NULL,`work` varchar(20) NOT NULL,
`Time` date NOT NULL);

CREATE TABLE `staff` (`staff_id` int(11) NOT NULL,`name` varchar(20) NOT NULL,`work` varchar(20)
NOT NULL,`salary` int(11) NOT NULL);


-- Indexes for table `booking`
--
ALTER TABLE `booking`
 ADD PRIMARY KEY (`bookin_id`),
 ADD KEY `fk1` (`guest_id`),
 ADD KEY `fk2` (`room_id`);

--
-- Indexes for table `expenditure`
--
ALTER TABLE `expenditure`
 ADD PRIMARY KEY (`exp_id`);

--
Indexes for table `food`
--
ALTER TABLE `food`
 ADD PRIMARY KEY (`food_id`);

-- Indexes for table `order_lab`
--
ALTER TABLE `order_lab`
 ADD PRIMARY KEY (`order_id`),
 ADD KEY `fk3` (`guest_id`)
ADD KEY `fk4` (`food_id`);

--
-- Indexes for table `guest`
--
```

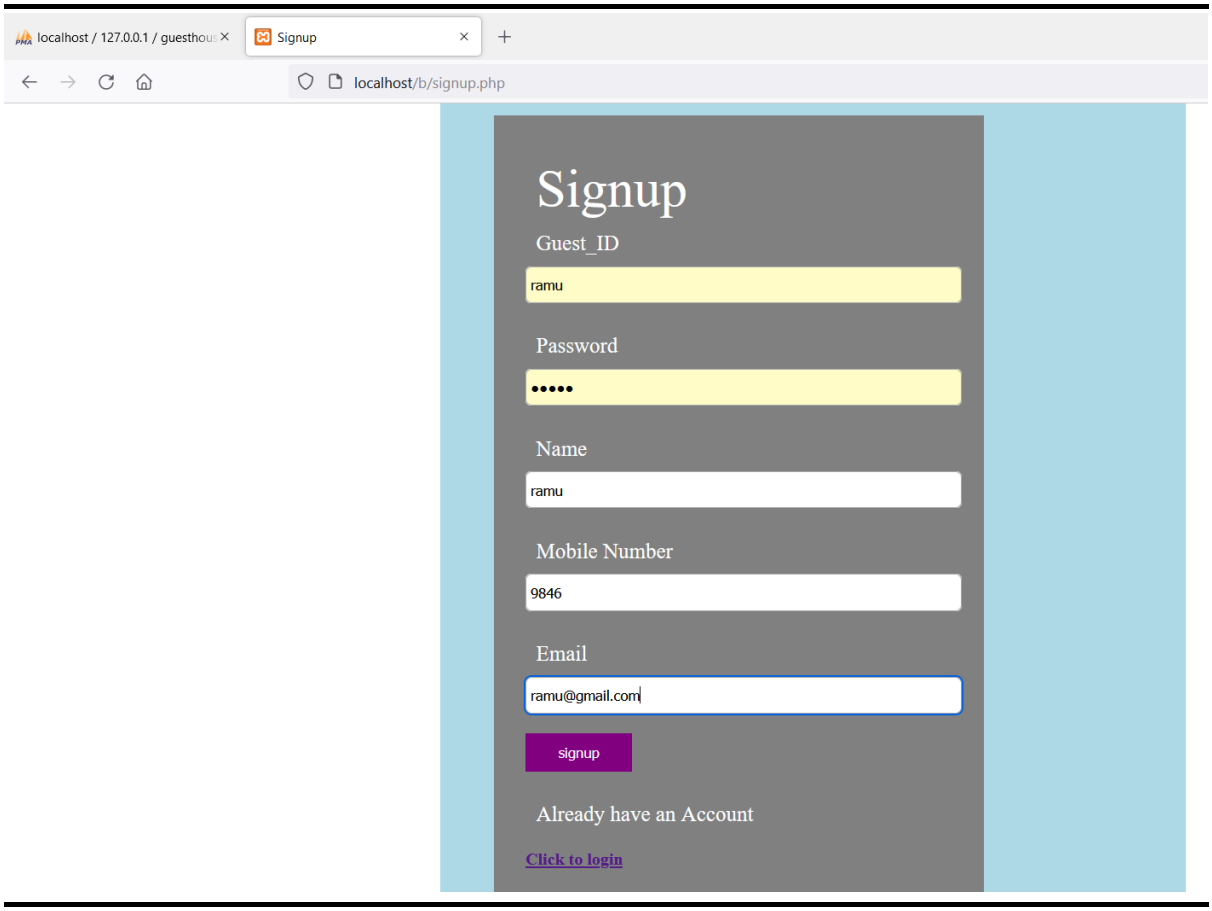
```
ALTER TABLE `guest`
  ADD PRIMARY KEY (`guest_id`);

--
-- Indexes for table `room`
--
ALTER TABLE `room`
  ADD PRIMARY KEY (`room_id`);

--
-- Indexes for table `service`
--
ALTER TABLE `service`
  ADD PRIMARY KEY (`service_id`),
  ADD KEY `fk5` (`room_id`),
  ADD KEY `fk6` (`guest_id`),
  ADD KEY `fk7` (`staff_id`);

--
-- Indexes for table `staff`
--
ALTER TABLE `staff`
  ADD PRIMARY KEY (`staff_id`);

--
-- AUTO_INCREMENT for dumped tables
--

--
-- AUTO_INCREMENT for table `booking`
--
ALTER TABLE `booking`
  MODIFY `bookin_id` int(20) NOT NULL AUTO_INCREMENT, AUTO_INCREMENT=7;

--
-- AUTO_INCREMENT for table `expenditure`
--
ALTER TABLE `expenditure`
  MODIFY `exp_id` int(20) NOT NULL AUTO_INCREMENT, AUTO_INCREMENT=13;

--
-- AUTO_INCREMENT for table `food`
--
ALTER TABLE `food`
  MODIFY `order_id` int(10) NOT NULL AUTO_INCREMENT, AUTO_INCREMENT=5;

--
-- AUTO_INCREMENT for table `service`
--
ALTER TABLE `service`
  MODIFY `service_id` int(10) NOT NULL AUTO_INCREMENT, AUTO_INCREMENT=3;

--
-- Constraints for dumped tables
--

--
-- Constraints for table `booking`
--
ALTER TABLE `booking`
```

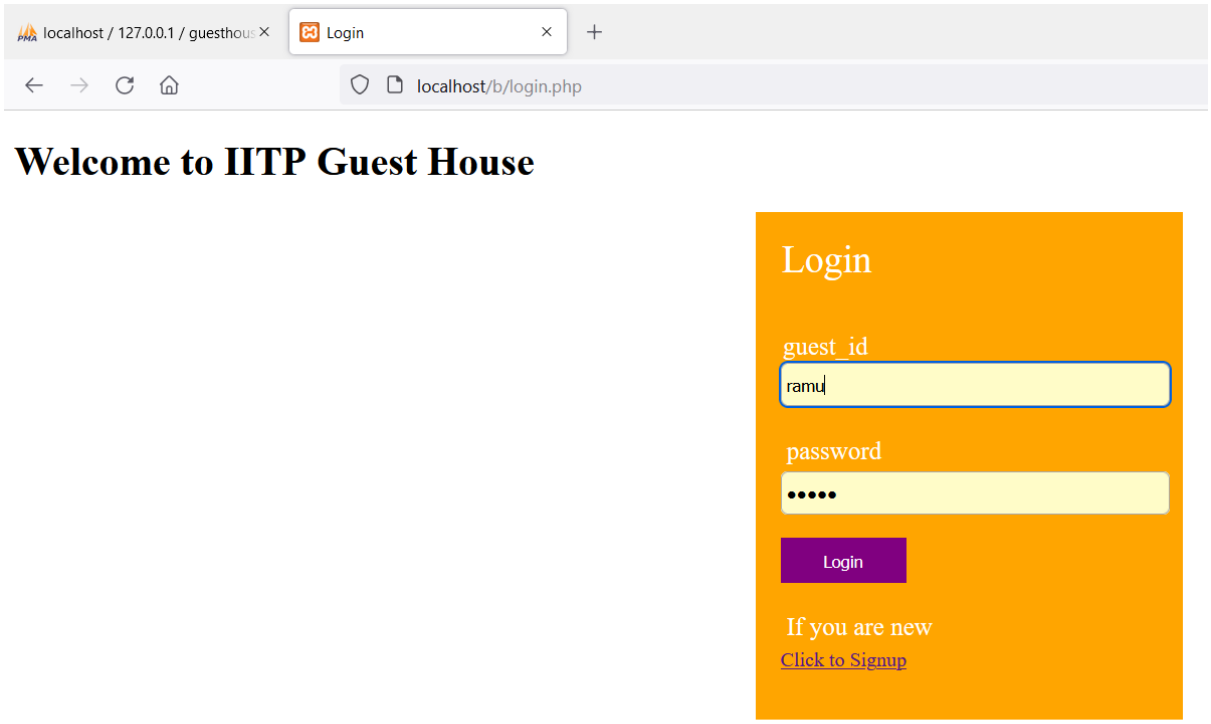
```
  ADD CONSTRAINT `fk1` FOREIGN KEY (`guest_id`) REFERENCES `guest` (`guest_id`),
  ADD CONSTRAINT `fk2` FOREIGN KEY (`room_id`) REFERENCES `room` (`room_id`);

--
-- Constraints for table `food`
--
ALTER TABLE `food`
  ADD CONSTRAINT `fk3` FOREIGN KEY (`guest_id`) REFERENCES `guest` (`guest_id`);
 ADD CONSTRAINT `fk4` FOREIGN KEY (`food_id`) REFERENCES `food` (`food_id`);


--
-- Constraints for table `service`
--
ALTER TABLE `service`
  ADD CONSTRAINT `fk5` FOREIGN KEY (`room_id`) REFERENCES `room` (`room_id`),
  ADD CONSTRAINT `fk6` FOREIGN KEY (`guest_id`) REFERENCES `guest` (`guest_id`),
  ADD CONSTRAINT `fk7` FOREIGN KEY (`staff_id`) REFERENCES `staff` (`staff_id`);
COMMIT;
INSERT INTO `expenditure` (`exp_id`, `date`, `expense_type`, `amount`) VALUES
(1, '2020-01-01', 'elec_bill', 2000),
(2, '2020-01-05', 'waterbill', 3500),
(3, '2020-03-08', 'waterbill', 3500),
(4, '2020-01-07', 'wifi bill', 4000),
(5, '2020-01-21', 'staff salary', 50000),
(6, '2020-01-05', 'food', 5000),
(7, '2020-01-05', 'room modifing', 1500),
(8, '2020-02-05', 'waterbill', 3500),
(9, '2020-02-05', 'wifi bill', 3500),
(10, '2020-02-05', 'ele_bill', 3500),
(11, '2020-02-05', 'food', 3500),
(12, '2020-03-05', 'waterbill', 3500);

INSERT INTO `booking` (`bookin_id`, `guest_id`, `room_id`, `booking_date`, `check_in`, `check_out`,
`no_of_days`) VALUES
(1, 'ramu', 101, '2020-02-01', '2020-02-01', '2020-02-04', 3),
(2, 'touheed@iitp.ac.in', 102, '2020-01-20', '2020-01-24', '2020-01-28', 4),
(3, 'touheed@iitp.ac.in', 201, '2020-01-20', '2020-01-24', '2020-01-28', 4),
(4, 'rohith@iitp.ac.in', 202, '2020-04-10', '2020-04-10', '2020-04-18', 8),
(5, 'rajesh@iitp.ac.in', 301, '2020-01-02', '2020-01-04', '2020-01-07', 3),
(6, 'rajesh@iitp.ac.in', 105, '2020-01-02', '2020-01-04', '2020-01-07', 3);

INSERT INTO `guest` (`guest_id`, `password`, `name`, `mobile_number`, `email_id`) VALUES
('rajesh@iitp.ac.in', 'rajeshp', 'Rajesh', 969847, 'rajesh@gmail.com'),
('ramu', 'ramup', 'raamu', 9846, 'ramu@gmail.com'),
('rohith@iitp.ac.in', 'rohithp', 'Rohith', 987456, 'rohith@gmail.com'),
('touheed@iitp.ac.in', '985th', 'Touheed', 98675, 'touheed@gmail.com');

INSERT INTO `room` (`room_id`, `room_type`, `max_ocupancy`, `amount`) VALUES
(101, 'single', 1, 500),(102, 'single', 1, 500),(103, 'single', 1, 500),(104, 'single', 1, 500),(105, 'single', 1, 500),
(106, 'single', 1, 500),(201, 'double', 2, 1000),(202, 'double', 2, 1000),(203, 'double', 2, 1000),(204, 'double', 2,
1000),(205, 'double', 2, 1000),(206, 'double', 2, 1000),(301, 'family', 4, 2000),(302, 'family', 4, 2000),(303,
'family', 4, 2000),(304, 'family', 4, 2000),(305, 'family', 4, 2000),(306, 'family', 4, 2000);
```

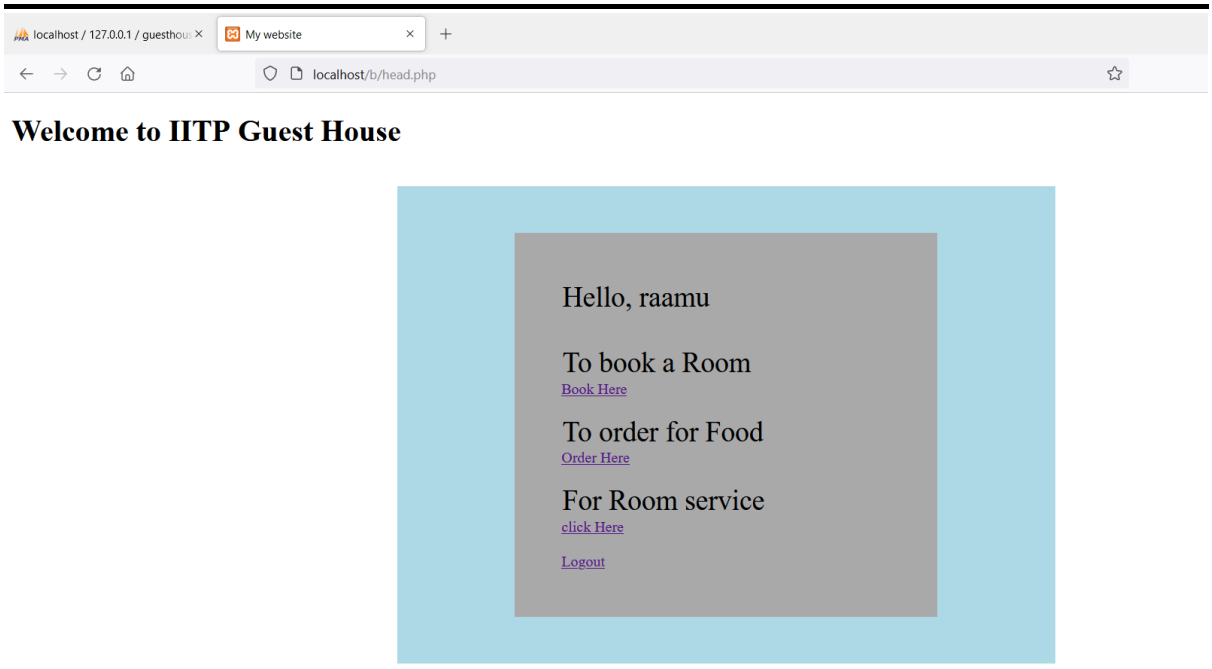
All MySQL queries are present in drive link

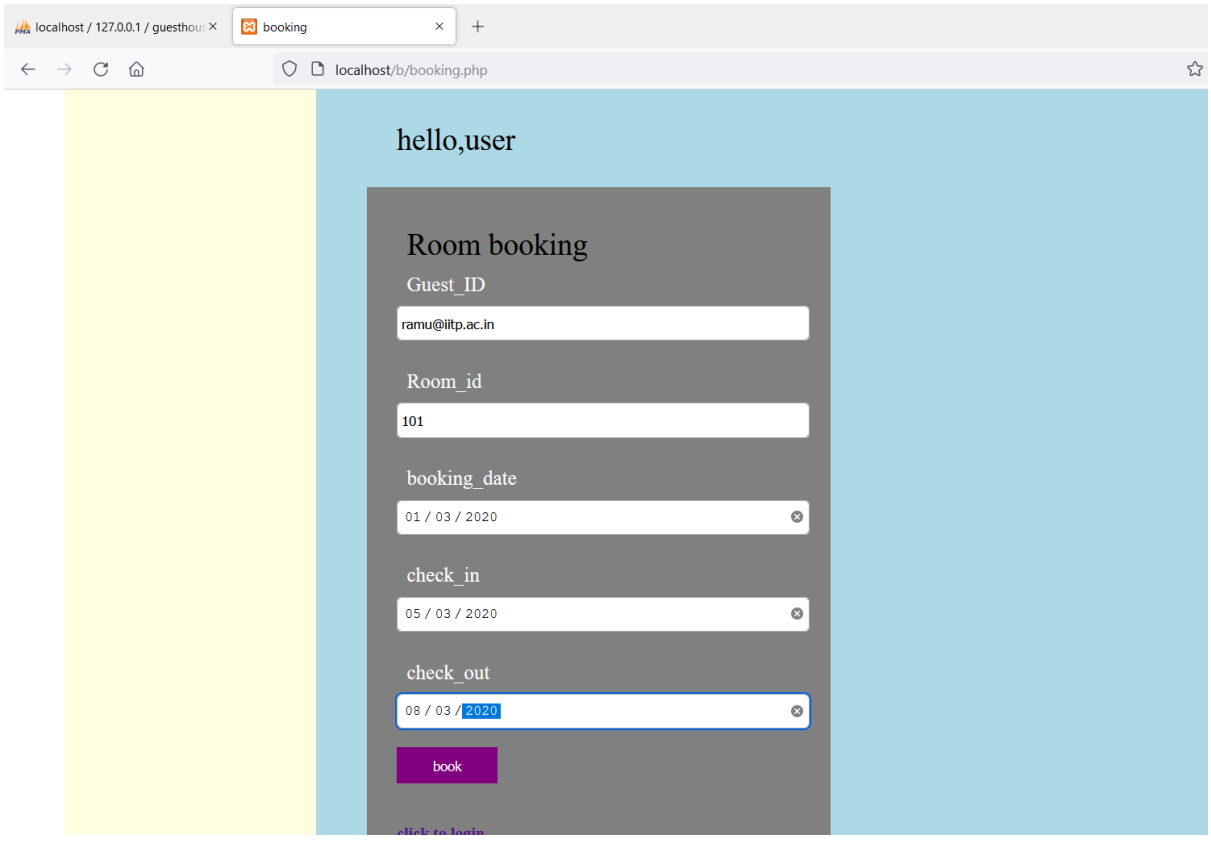
4.Web interface using php

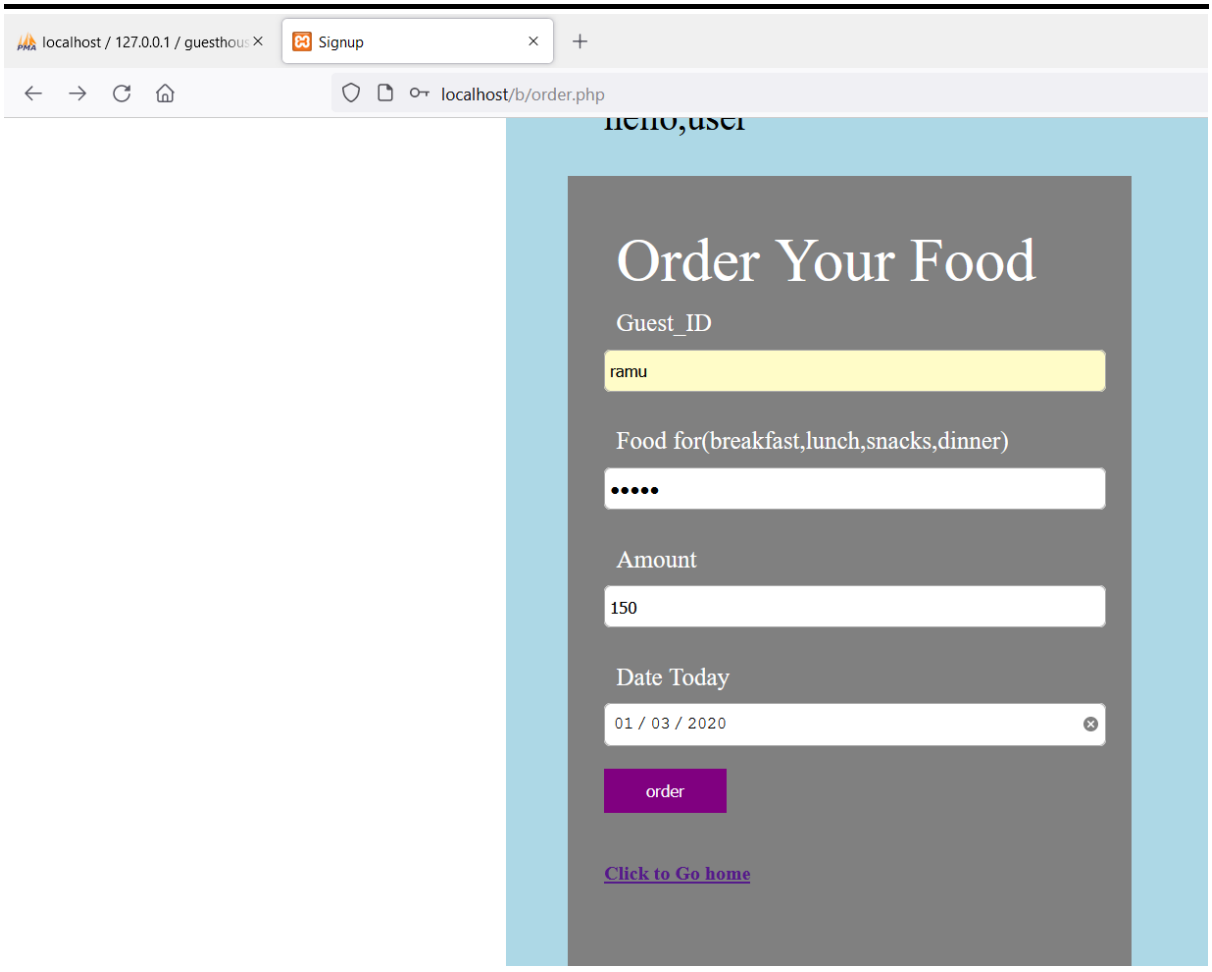





localhost / 127.0.0.1 / guesthous
Login
localhost/b/login.php
Welcome to IITP Guest House
Login
guest_id
ramu
password
Login
If you are new
Click to Signup


localhost / 127.0.0.1 / guesthou
My website
localhost/b/head.php
Welcome to IITP Guest House
Hello, raamu
To book a Room
Book Here
To order for Food
Order Here
For Room service
click Here
Logout


localhost / 127.0.0.1 / guesthou
booking
localhost/b/booking.php
hello,user
Room booking
Guest_ID
ramu@iitp.ac.in
Room_id
101
booking_date
01 / 03 / 2020
check_in
05 / 03 / 2020
check_out
08 / 03 / 2020
book


localhost / 127.0.0.1 / guesthou
Signup
localhost/b/order.php
Order Your Food
Guest_ID
ramu
Food for(breakfast,lunch,snacks,dinner)
Amount
150
Date Today
01 / 03 / 2020
order
Click to Go home

5.Sample_queries:

1. Monthly bookings for the guest house in different categories (here I took month as January)

```
SELECT room_type,COUNT(room_type) FROM `booking`,`room` WHERE
booking.room_id = room.room_id AND
booking_date BETWEEN '2020-01-01' and '2020-01-31'
group by room.room_type ;
```

Output: single 2 double 1 family 1

2. The total monthly expenditure for the guest house(here I took month as January)

```
Select sum(amount) from expenditure WHERE date between '2020-01-01' and'2020-01-31';
```

```
Output:
6600
```

3.Generation of bills (guest_id=rohith@iitp.ac.in)

```
SELECT room.amount*booking.no_of_days+sum(food.amount) as amount FROM `booking`,`room`,`food`
WHERE booking.guest_id = 'rohith@iitp.ac.in' AND food.guest_id='rohith@iitp.ac.in' AND booking.room_id
= room.room_id;
```

```
Output:
```

4.Availability of room (assuming cur_date = 2020-01-26)

```
select * from room where room_id not IN(
select booking.room_id from room,booking
where room.room_id =booking.room_id AND booking.check_in <'2020-01-26'AND
booking.check_out > '2020-01-26');
Output:
```

5. Monthly food bill(here I took month as January)

```
select sum(amount) from food,order_
where order_.room_id=food.food_id AND booking_date BETWEEN '2020-01-01' and '2020-
01-31';
Output:
```