BDM Final Project

Part 1

1) General Description:

In this project, we are tasked with making a rudimentary Hotel website that which acts as interface for insertion and retrieval of data. To accomplish the same, for the purpose of insertion we have created 3 HTML pages to input records pertaining to Customers, their dependents, the room they are going to occupy and an event if the customer is planning to book one. These webpages use Apache to communicate with MySQL database that stores all the data supplied through Python CGI. On the server side, Python CGI connects to the MySQL and performs parsing of data. We have built another HTML page for retrieving the information about reservations made by the customers already inserted in the database.

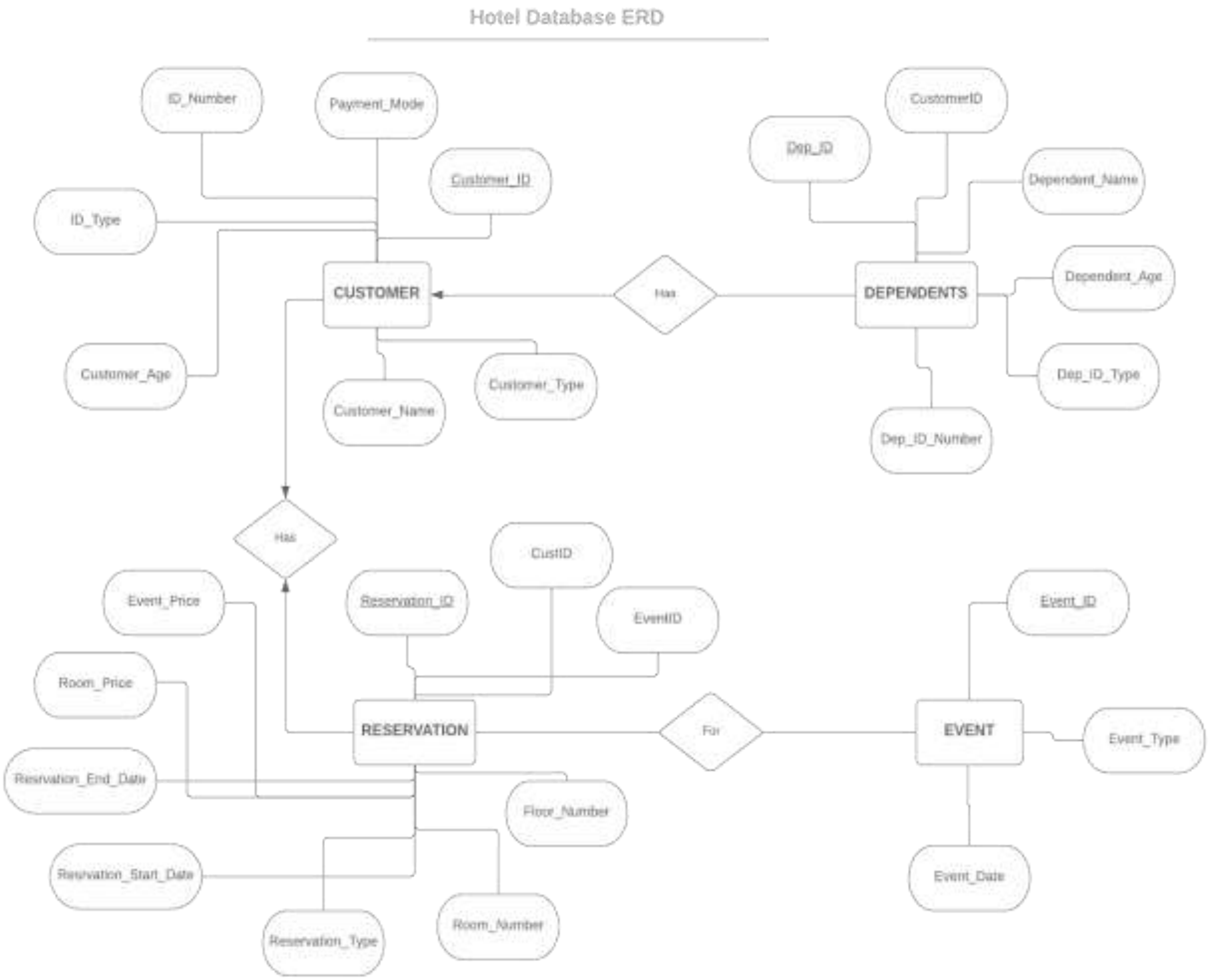
Assumptions and Constraints:

- A primary customer is one who makes the reservation i.e. payments are to be made by the primary customer only.
- A primary customer can have many dependents. A dependent must have a primary customer.
- The primary customer can book an event for a particular date or its multiple only when he also has booked a room.
- No two customer can make reservations for the same room for the same date.
- A primary customer can make reservations for different rooms under the same name. However, in that case a new 'Customer_ID' will be generated for each reservation.
- Payments made for a room reservation is reflected in 'Reservation' table. Additionally, payment made for an event, will be reflected against the payment made for room in the same table.
- Payments are to be made through cash/credit/debit.
- Three standard room types are offered :

  Single for 1 person; 1 Bed
  Double for upto 2 person; 2 beds
  Deluxe for 2 or more person; 3 beds
- Events information along with the room booked is reflected under 'Reservation_Type'
- Six event hosting options are provided:

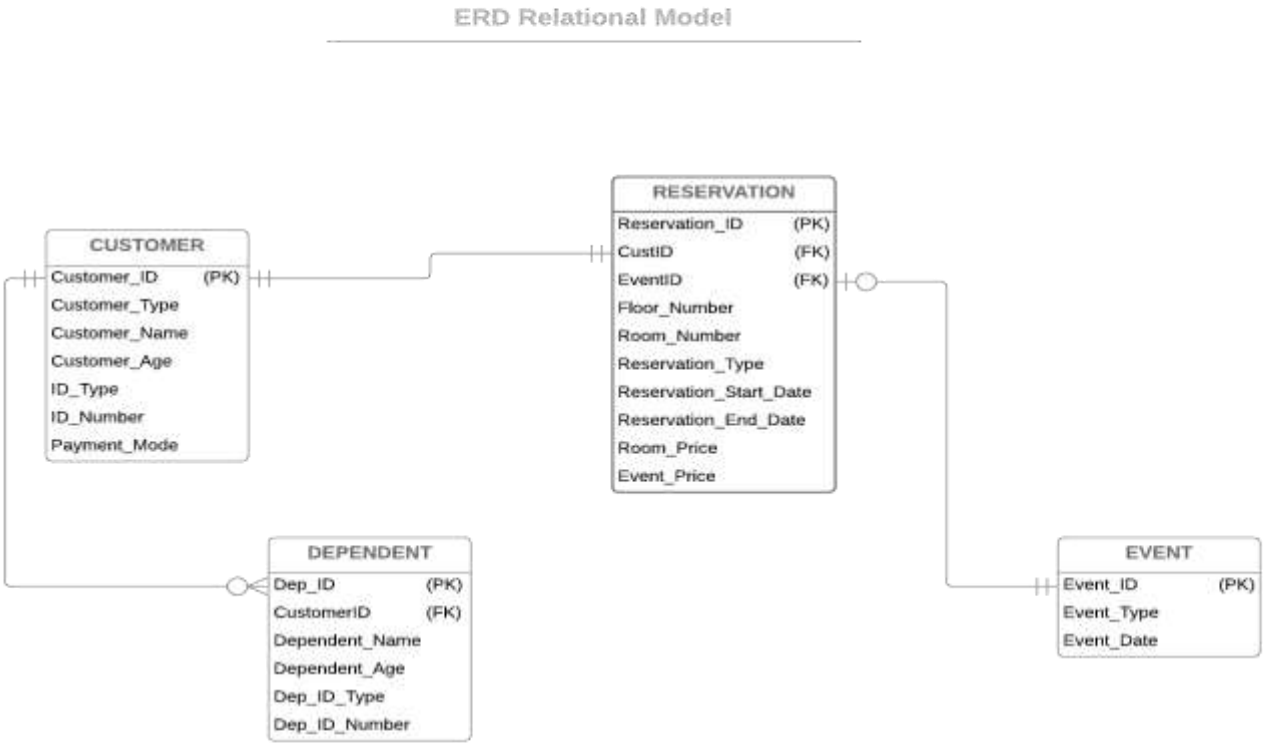
  Reunions, Birthday Parties, Engagement Ceremony, Small Wedding, Business Meetings

2) ER diagram and Relational Model:



Part 2

1) ERD as a Relational Model:

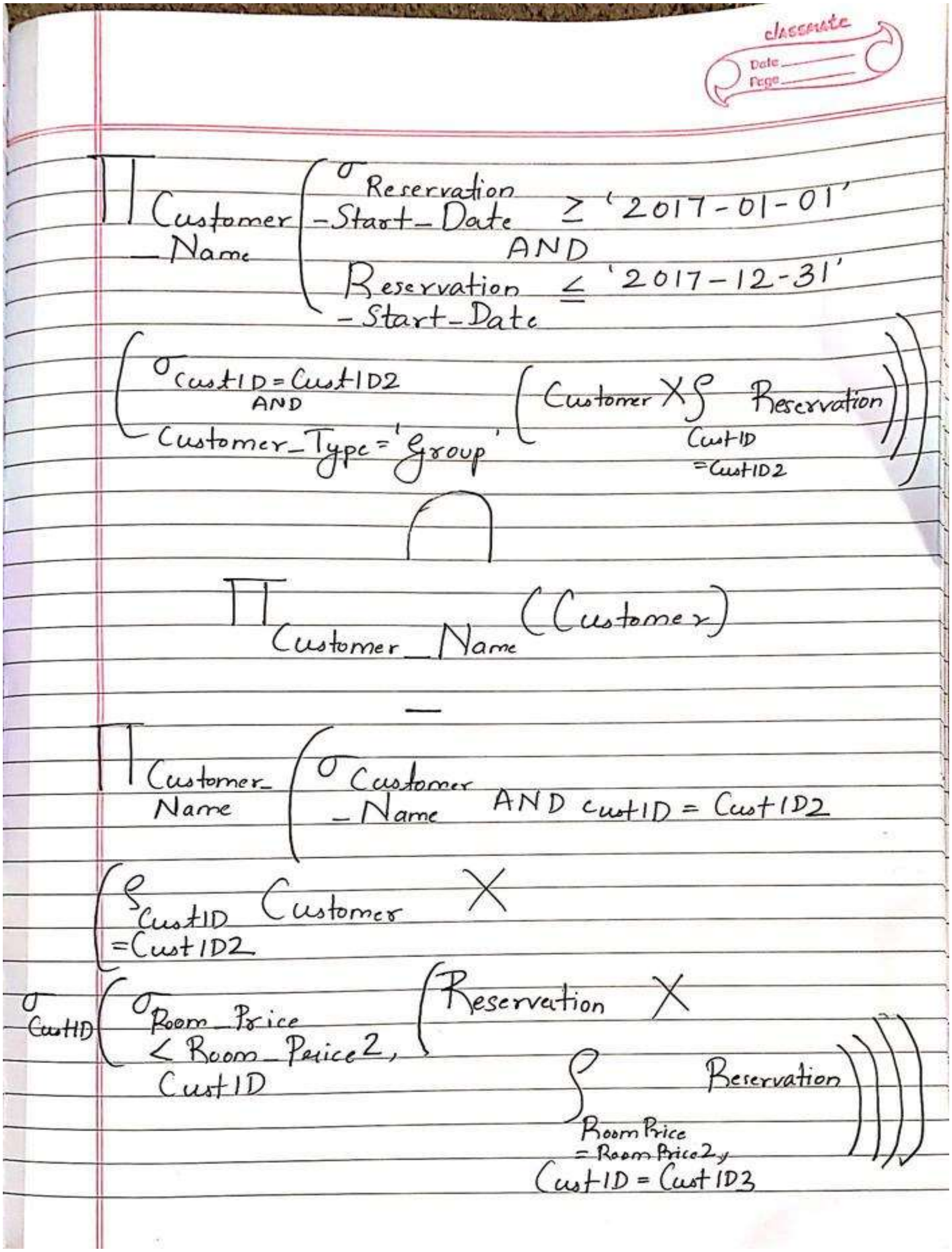


2) SQL and Relational queries on the question mentioned below:

Find the customer (or customers) who paid the highest room rate in 2017 and is also related to at least one more non-primary customer.

SQL Query

Relational Query



$$\Pi_{Customer\_Name} \left(\sigma_{\substack{Reservation\_Start\_Date \geq '2017-01-01' \\ AND \\ Reservation\_Start\_Date \leq '2017-12-31'}} \right.$$

$$\left. \left(\sigma_{\substack{CustID = CustID2 \\ AND \\ Customer\_Type = 'Group'}} \left(Customer \times \rho_{\substack{CustID \\ = CustID2}} Reservation \right) \right) \right)$$

$$\cap$$

$$\Pi_{Customer\_Name} (Customer)$$

$$-$$

$$\Pi_{Customer\_Name} \left(\sigma_{Customer\_Name} \; AND \; custID = CustID2 \right.$$

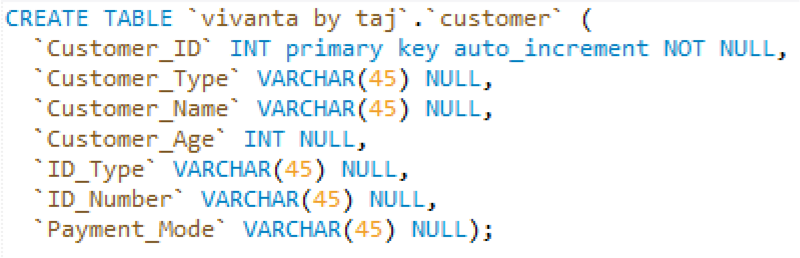
$$\left(\rho_{\substack{CustID \\ = CustID2}} Customer \times \right.$$

$$\left. \left. \sigma_{CustID} \left(\sigma_{\substack{Room\_Price \\ < Room\_Price2, \\ CustID}} \left(Reservation \times \rho_{\substack{RoomPrice \\ = RoomPrice2, \\ CustID = CustID3}} Reservation \right) \right) \right) \right)$$

3) Table Creation, Data Insertion and Table Visualization

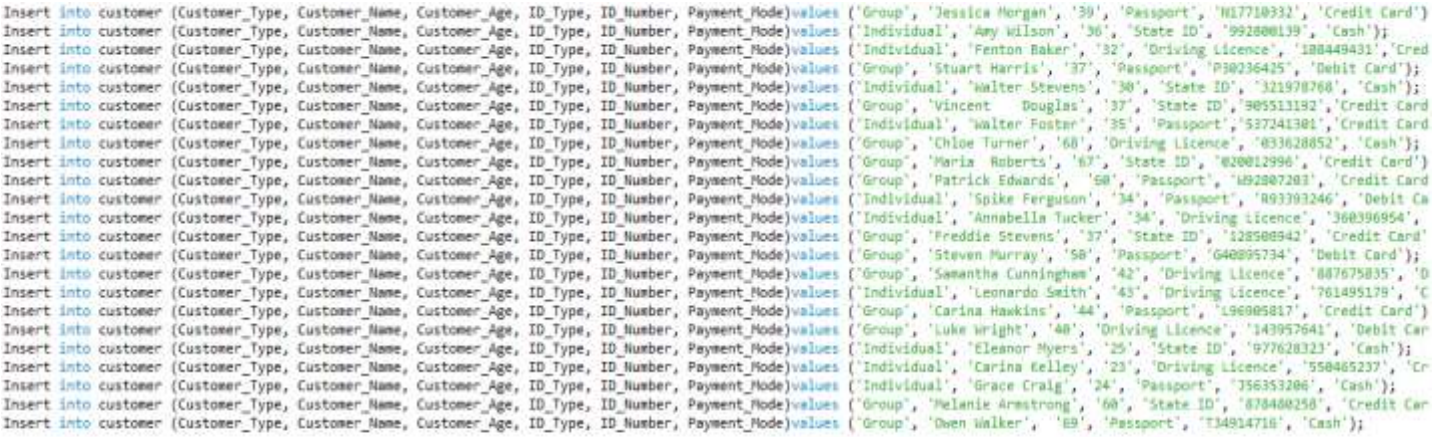
A) Customer Table:

Create



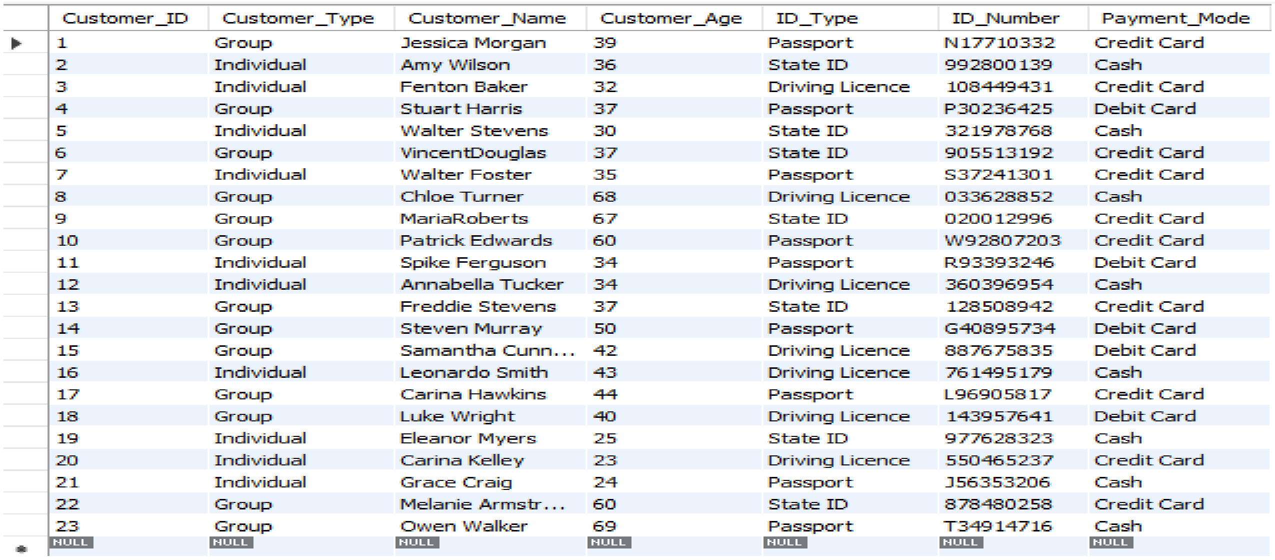
```
CREATE TABLE `vivanta by taj`.`customer` (
  `Customer_ID` INT primary key auto_increment NOT NULL,
  `Customer_Type` VARCHAR(45) NULL,
  `Customer_Name` VARCHAR(45) NULL,
  `Customer_Age` INT NULL,
  `ID_Type` VARCHAR(45) NULL,
  `ID_Number` VARCHAR(45) NULL,
  `Payment_Mode` VARCHAR(45) NULL);
```

Insert



```
Insert into customer (Customer_Type, Customer_Name, Customer_Age, ID_Type, ID_Number, Payment_Mode)values ('Group', 'Jessica Morgan', '39', 'Passport', 'N17710332', 'Credit Card')
Insert into customer (Customer_Type, Customer_Name, Customer_Age, ID_Type, ID_Number, Payment_Mode)values ('Individual', 'Amy Wilson', '36', 'State ID', '992800139', 'Cash');
Insert into customer (Customer_Type, Customer_Name, Customer_Age, ID_Type, ID_Number, Payment_Mode)values ('Individual', 'Fenton Baker', '32', 'Driving Licence', '108449431','Cred
Insert into customer (Customer_Type, Customer_Name, Customer_Age, ID_Type, ID_Number, Payment_Mode)values ('Group', 'Stuart Harris', '37', 'Passport', 'P30236425', 'Debit Card');
Insert into customer (Customer_Type, Customer_Name, Customer_Age, ID_Type, ID_Number, Payment_Mode)values ('Individual', 'Walter Stevens', '30', 'State ID', '321978768', 'Cash');
Insert into customer (Customer_Type, Customer_Name, Customer_Age, ID_Type, ID_Number, Payment_Mode)values ('Group', 'Vincent   Douglas', '37', 'State ID','905513192','Credit Card
Insert into customer (Customer_Type, Customer_Name, Customer_Age, ID_Type, ID_Number, Payment_Mode)values ('Individual', 'Walter Foster', '35', 'Passport','537241301','Credit Card
Insert into customer (Customer_Type, Customer_Name, Customer_Age, ID_Type, ID_Number, Payment_Mode)values ('Group', 'Chloe Turner', '68', 'Driving Licence', '033628852', 'Cash');
Insert into customer (Customer_Type, Customer_Name, Customer_Age, ID_Type, ID_Number, Payment_Mode)values ('Group', 'Maria  Roberts', '67', 'State ID', '020012996', 'Credit Card')
Insert into customer (Customer_Type, Customer_Name, Customer_Age, ID_Type, ID_Number, Payment_Mode)values ('Group', 'Patrick Edwards',  '60', 'Passport', 'W92807203', 'Credit Card
Insert into customer (Customer_Type, Customer_Name, Customer_Age, ID_Type, ID_Number, Payment_Mode)values ('Individual', 'Spike Ferguson', '34', 'Passport', 'R93393246', 'Debit Ca
Insert into customer (Customer_Type, Customer_Name, Customer_Age, ID_Type, ID_Number, Payment_Mode)values ('Individual', 'Annabella Tucker', '34', 'Driving Licence', '360396954',
Insert into customer (Customer_Type, Customer_Name, Customer_Age, ID_Type, ID_Number, Payment_Mode)values ('Group', 'Freddie Stevens', '37', 'State ID', '128508942', 'Credit Card'
Insert into customer (Customer_Type, Customer_Name, Customer_Age, ID_Type, ID_Number, Payment_Mode)values ('Group', 'Steven Murray', '50', 'Passport', 'G40895734', 'Debit Card');
Insert into customer (Customer_Type, Customer_Name, Customer_Age, ID_Type, ID_Number, Payment_Mode)values ('Group', 'Samantha Cunningham', '42', 'Driving Licence', '887675835', 'D
Insert into customer (Customer_Type, Customer_Name, Customer_Age, ID_Type, ID_Number, Payment_Mode)values ('Individual', 'Leonardo Smith', '43', 'Driving Licence', '761495179', 'C
Insert into customer (Customer_Type, Customer_Name, Customer_Age, ID_Type, ID_Number, Payment_Mode)values ('Group', 'Carina Hawkins', '44', 'Passport', 'L96905817', 'Credit Card')
Insert into customer (Customer_Type, Customer_Name, Customer_Age, ID_Type, ID_Number, Payment_Mode)values ('Group', 'Luke Wright', '40', 'Driving Licence', '143957641', 'Debit Car
Insert into customer (Customer_Type, Customer_Name, Customer_Age, ID_Type, ID_Number, Payment_Mode)values ('Individual', 'Eleanor Myers', '25', 'State ID', '977628323', 'Cash');
Insert into customer (Customer_Type, Customer_Name, Customer_Age, ID_Type, ID_Number, Payment_Mode)values ('Individual', 'Carina Kelley', '23', 'Driving Licence', '550465237', 'Cr
Insert into customer (Customer_Type, Customer_Name, Customer_Age, ID_Type, ID_Number, Payment_Mode)values ('Individual', 'Grace Craig', '24', 'Passport', 'J56353206', 'Cash');
Insert into customer (Customer_Type, Customer_Name, Customer_Age, ID_Type, ID_Number, Payment_Mode)values ('Group', 'Melanie Armstrong', '60', 'State ID', '878480258', 'Credit Car
Insert into customer (Customer_Type, Customer_Name, Customer_Age, ID_Type, ID_Number, Payment_Mode)values ('Group', 'Owen Walker',  '69', 'Passport', 'T34914716', 'Cash');
```

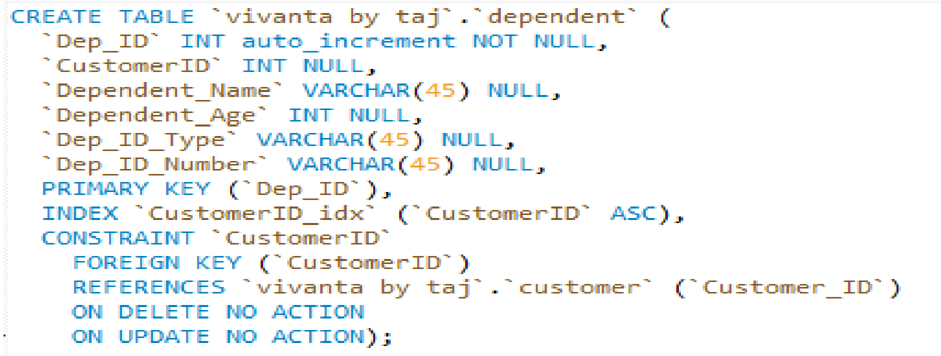
View



	Customer_ID	Customer_Type	Customer_Name	Customer_Age	ID_Type	ID_Number	Payment_Mode
▶	1	Group	Jessica Morgan	39	Passport	N17710332	Credit Card
	2	Individual	Amy Wilson	36	State ID	992800139	Cash
	3	Individual	Fenton Baker	32	Driving Licence	108449431	Credit Card
	4	Group	Stuart Harris	37	Passport	P30236425	Debit Card
	5	Individual	Walter Stevens	30	State ID	321978768	Cash
	6	Group	VincentDouglas	37	State ID	905513192	Credit Card
	7	Individual	Walter Foster	35	Passport	S37241301	Credit Card
	8	Group	Chloe Turner	68	Driving Licence	033628852	Cash
	9	Group	MariaRoberts	67	State ID	020012996	Credit Card
	10	Group	Patrick Edwards	60	Passport	W92807203	Credit Card
	11	Individual	Spike Ferguson	34	Passport	R93393246	Debit Card
	12	Individual	Annabella Tucker	34	Driving Licence	360396954	Cash
	13	Group	Freddie Stevens	37	State ID	128508942	Credit Card
	14	Group	Steven Murray	50	Passport	G40895734	Debit Card
	15	Group	Samantha Cunn...	42	Driving Licence	887675835	Debit Card
	16	Individual	Leonardo Smith	43	Driving Licence	761495179	Cash
	17	Group	Carina Hawkins	44	Passport	L96905817	Credit Card
	18	Group	Luke Wright	40	Driving Licence	143957641	Debit Card
	19	Individual	Eleanor Myers	25	State ID	977628323	Cash
	20	Individual	Carina Kelley	23	Driving Licence	550465237	Credit Card
	21	Individual	Grace Craig	24	Passport	J56353206	Cash
	22	Group	Melanie Armstr...	60	State ID	878480258	Credit Card
	23	Group	Owen Walker	69	Passport	T34914716	Cash
*	NULL	NULL	NULL	NULL	NULL	NULL	NULL

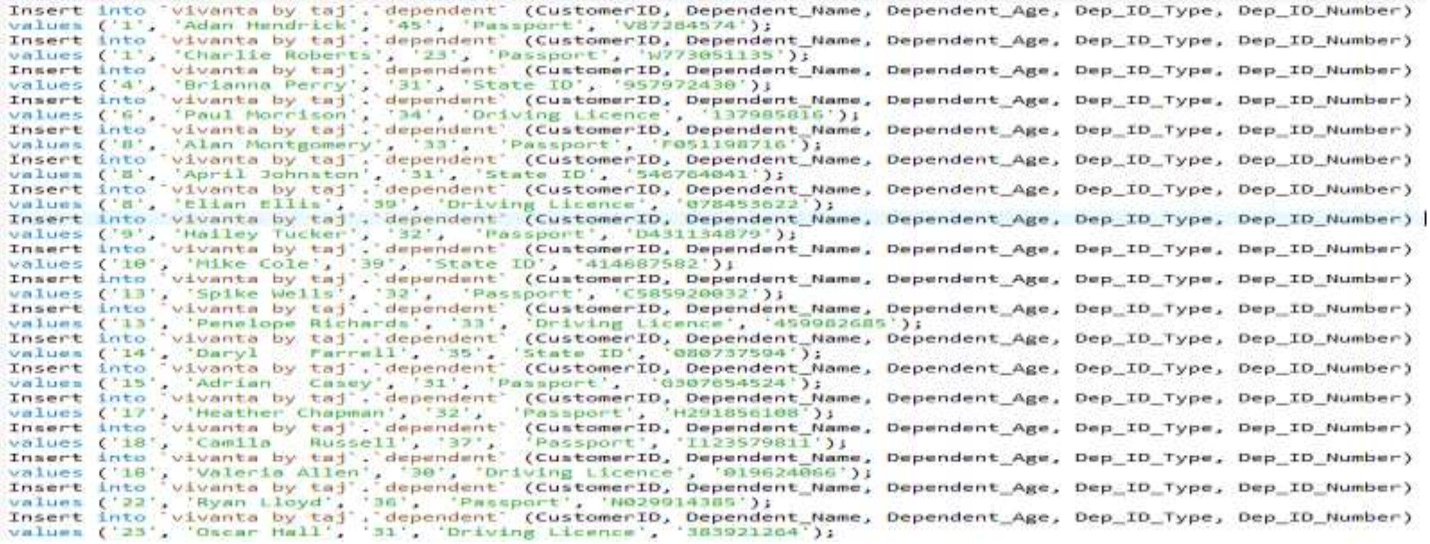
B) Dependent Table:

Create



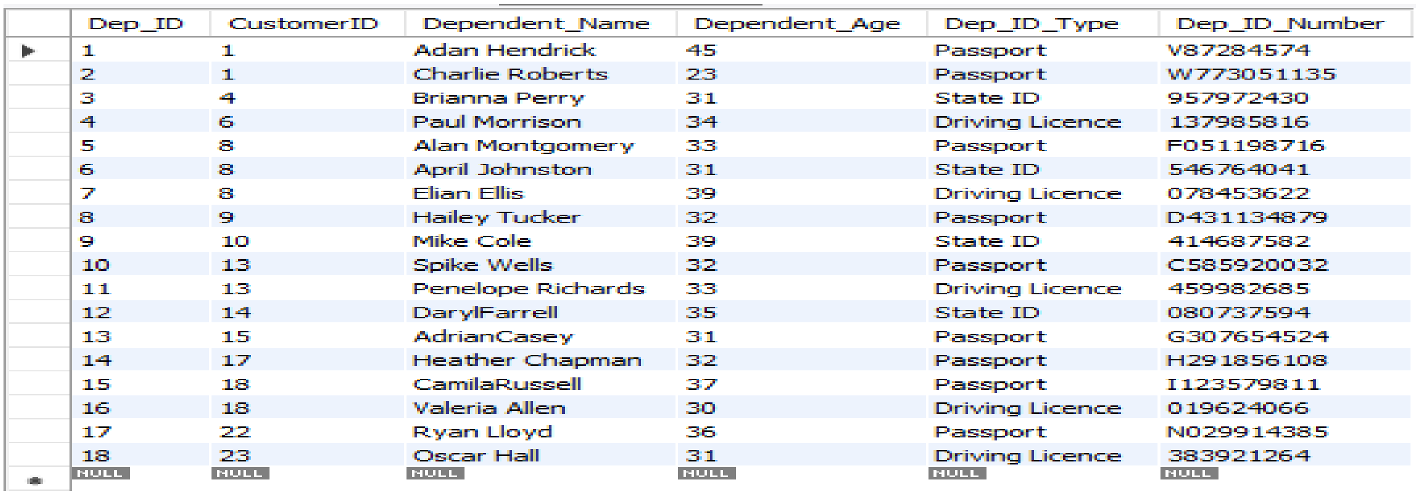
```
CREATE TABLE `vivanta by taj`.`dependent` (
  `Dep_ID` INT auto_increment NOT NULL,
  `CustomerID` INT NULL,
  `Dependent_Name` VARCHAR(45) NULL,
  `Dependent_Age` INT NULL,
  `Dep_ID_Type` VARCHAR(45) NULL,
  `Dep_ID_Number` VARCHAR(45) NULL,
  PRIMARY KEY (`Dep_ID`),
  INDEX `CustomerID_idx` (`CustomerID` ASC),
  CONSTRAINT `CustomerID`
    FOREIGN KEY (`CustomerID`)
    REFERENCES `vivanta by taj`.`customer` (`Customer_ID`)
    ON DELETE NO ACTION
    ON UPDATE NO ACTION);
```

Insert



```
Insert into `vivanta by taj`.`dependent` (CustomerID, Dependent_Name, Dependent_Age, Dep_ID_Type, Dep_ID_Number)
values ('1', 'Adan Hendrick', '45', 'Passport', 'V87284574');
Insert into `vivanta by taj`.`dependent` (CustomerID, Dependent_Name, Dependent_Age, Dep_ID_Type, Dep_ID_Number)
values ('1', 'Charlie Roberts', '23', 'Passport', 'W773051135');
Insert into `vivanta by taj`.`dependent` (CustomerID, Dependent_Name, Dependent_Age, Dep_ID_Type, Dep_ID_Number)
values ('4', 'Brianna Perry', '31', 'State ID', '957972430');
Insert into `vivanta by taj`.`dependent` (CustomerID, Dependent_Name, Dependent_Age, Dep_ID_Type, Dep_ID_Number)
values ('6', 'Paul Morrison', '34', 'Driving Licence', '137985816');
Insert into `vivanta by taj`.`dependent` (CustomerID, Dependent_Name, Dependent_Age, Dep_ID_Type, Dep_ID_Number)
values ('8', 'Alan Montgomery', '33',  'Passport', 'F051198716');
Insert into `vivanta by taj`.`dependent` (CustomerID, Dependent_Name, Dependent_Age, Dep_ID_Type, Dep_ID_Number)
values ('8', 'April Johnston', '31', 'State ID', '546764041');
Insert into `vivanta by taj`.`dependent` (CustomerID, Dependent_Name, Dependent_Age, Dep_ID_Type, Dep_ID_Number)
values ('8', 'Elian Ellis', '39', 'Driving Licence', '078453622');
Insert into `vivanta by taj`.`dependent` (CustomerID, Dependent_Name, Dependent_Age, Dep_ID_Type, Dep_ID_Number)
values ('9', 'Hailey Tucker', '32',  'Passport', 'D431134879');
Insert into `vivanta by taj`.`dependent` (CustomerID, Dependent_Name, Dependent_Age, Dep_ID_Type, Dep_ID_Number)
values ('10', 'Mike Cole', '39', 'State ID', '414687582');
Insert into `vivanta by taj`.`dependent` (CustomerID, Dependent_Name, Dependent_Age, Dep_ID_Type, Dep_ID_Number)
values ('13', 'Spike Wells', '32',  'Passport', 'C585920032');
Insert into `vivanta by taj`.`dependent` (CustomerID, Dependent_Name, Dependent_Age, Dep_ID_Type, Dep_ID_Number)
values ('13', 'Penelope Richards', '33', 'Driving Licence', '459982685');
Insert into `vivanta by taj`.`dependent` (CustomerID, Dependent_Name, Dependent_Age, Dep_ID_Type, Dep_ID_Number)
values ('14', 'Daryl    Farrell', '35', 'State ID', '080737594');
Insert into `vivanta by taj`.`dependent` (CustomerID, Dependent_Name, Dependent_Age, Dep_ID_Type, Dep_ID_Number)
values ('15', 'Adrian   Casey', '31', 'Passport',  'G307654524');
Insert into `vivanta by taj`.`dependent` (CustomerID, Dependent_Name, Dependent_Age, Dep_ID_Type, Dep_ID_Number)
values ('17', 'Heather Chapman', '32',  'Passport', 'H291856108');
Insert into `vivanta by taj`.`dependent` (CustomerID, Dependent_Name, Dependent_Age, Dep_ID_Type, Dep_ID_Number)
values ('18', 'Camila   Russell', '37',  'Passport', 'I123579811');
Insert into `vivanta by taj`.`dependent` (CustomerID, Dependent_Name, Dependent_Age, Dep_ID_Type, Dep_ID_Number)
values ('18', 'Valeria Allen', '30', 'Driving Licence', '019624066');
Insert into `vivanta by taj`.`dependent` (CustomerID, Dependent_Name, Dependent_Age, Dep_ID_Type, Dep_ID_Number)
values ('22', 'Ryan Lloyd', '36',  'Passport', 'N029914385');
Insert into `vivanta by taj`.`dependent` (CustomerID, Dependent_Name, Dependent_Age, Dep_ID_Type, Dep_ID_Number)
values ('23', 'Oscar Hall', '31', 'Driving Licence', '383921264');
```

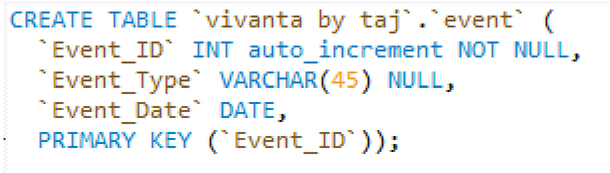
View



	Dep_ID	CustomerID	Dependent_Name	Dependent_Age	Dep_ID_Type	Dep_ID_Number
▶	1	1	Adan Hendrick	45	Passport	V87284574
	2	1	Charlie Roberts	23	Passport	W773051135
	3	4	Brianna Perry	31	State ID	957972430
	4	6	Paul Morrison	34	Driving Licence	137985816
	5	8	Alan Montgomery	33	Passport	F051198716
	6	8	April Johnston	31	State ID	546764041
	7	8	Elian Ellis	39	Driving Licence	078453622
	8	9	Hailey Tucker	32	Passport	D431134879
	9	10	Mike Cole	39	State ID	414687582
	10	13	Spike Wells	32	Passport	C585920032
	11	13	Penelope Richards	33	Driving Licence	459982685
	12	14	DarylFarrell	35	State ID	080737594
	13	15	AdrianCasey	31	Passport	G307654524
	14	17	Heather Chapman	32	Passport	H291856108
	15	18	CamilaRussell	37	Passport	I123579811
	16	18	Valeria Allen	30	Driving Licence	019624066
	17	22	Ryan Lloyd	36	Passport	N029914385
	18	23	Oscar Hall	31	Driving Licence	383921264
*	NULL	NULL	NULL	NULL	NULL	NULL

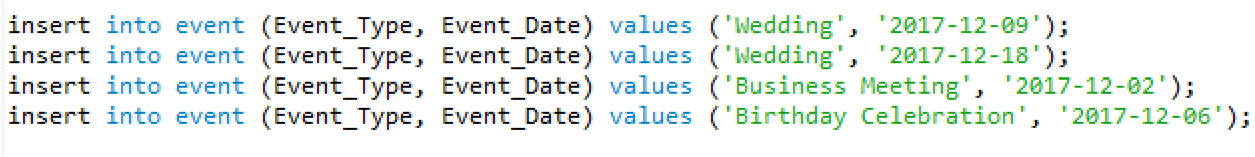
C) Event Table:

Create



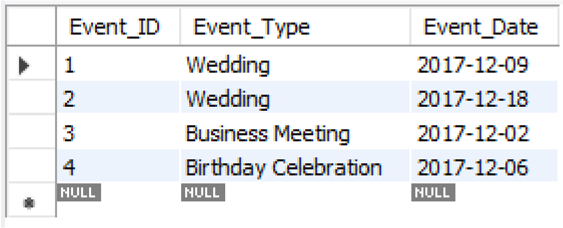
```
CREATE TABLE `vivanta by taj`.`event` (
  `Event_ID` INT auto_increment NOT NULL,
  `Event_Type` VARCHAR(45) NULL,
  `Event_Date` DATE,
  PRIMARY KEY (`Event_ID`));
```

Insert



```
insert into event (Event_Type, Event_Date) values ('Wedding', '2017-12-09');
insert into event (Event_Type, Event_Date) values ('Wedding', '2017-12-18');
insert into event (Event_Type, Event_Date) values ('Business Meeting', '2017-12-02');
insert into event (Event_Type, Event_Date) values ('Birthday Celebration', '2017-12-06');
```

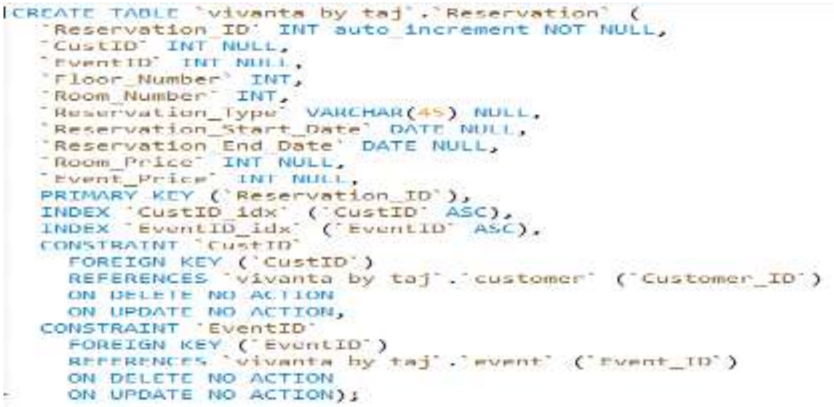
View



	Event_ID	Event_Type	Event_Date
▶	1	Wedding	2017-12-09
	2	Wedding	2017-12-18
	3	Business Meeting	2017-12-02
	4	Birthday Celebration	2017-12-06
*	NULL	NULL	NULL

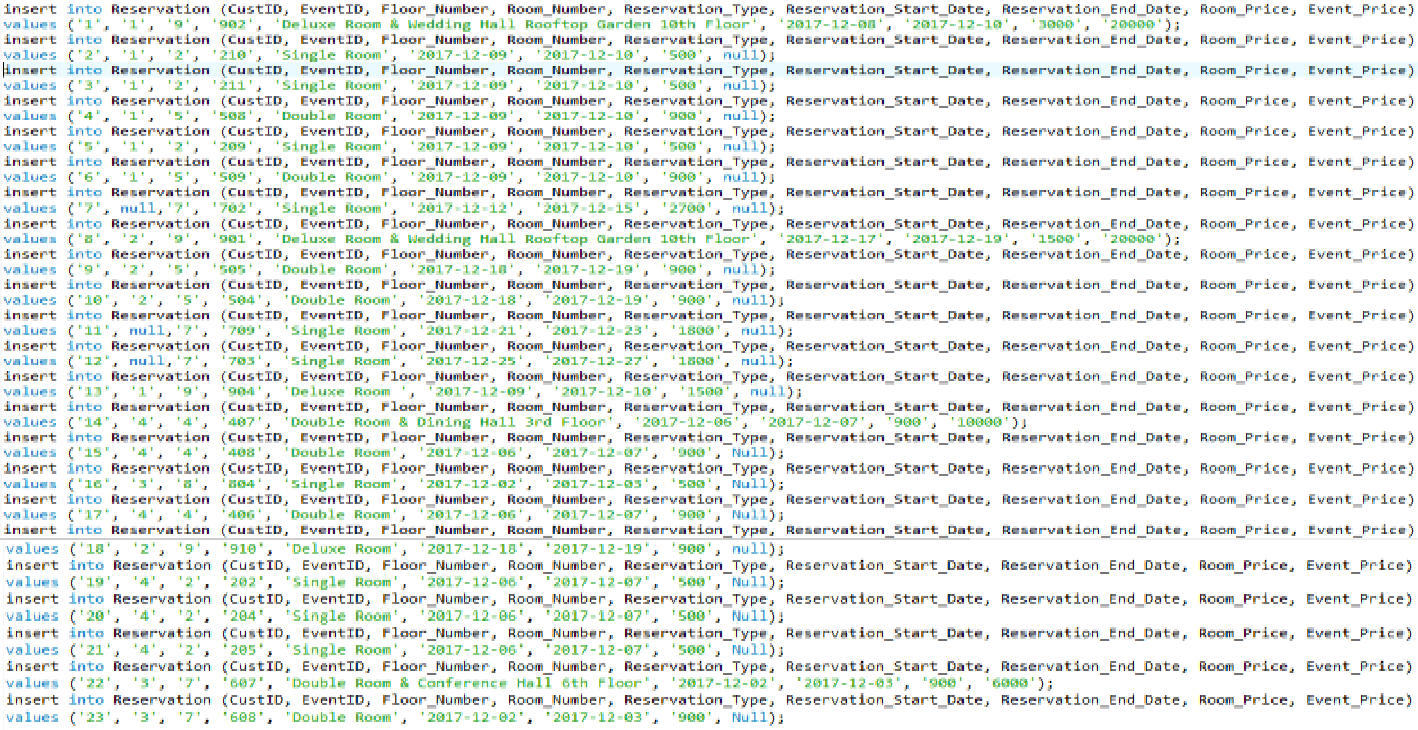
D) Reservation Table:

Create



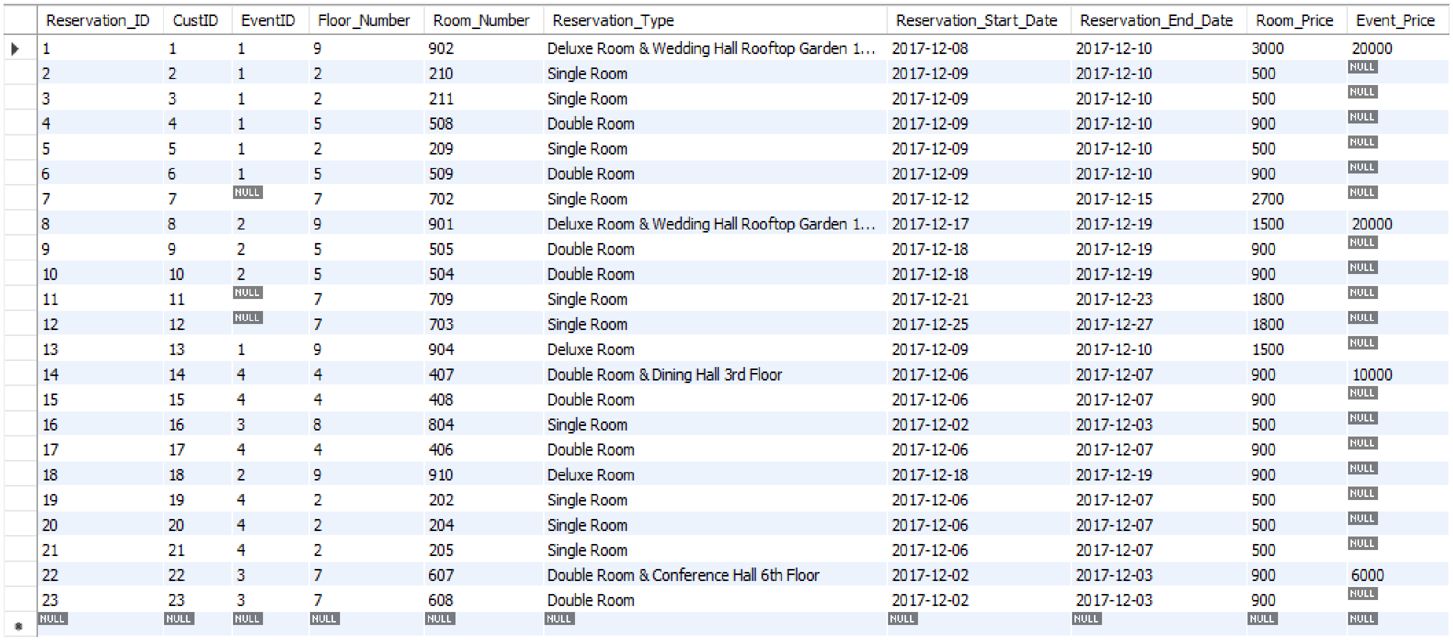
```
CREATE TABLE `vivanta by taj`.`Reservation` (
  `Reservation_ID` INT auto_increment NOT NULL,
  `CustID` INT NULL,
  `EventID` INT NULL,
  `Floor_Number` INT,
  `Room_Number` INT,
  `Reservation_Type` VARCHAR(45) NULL,
  `Reservation_Start_Date` DATE NULL,
  `Reservation_End_Date` DATE NULL,
  `Room_Price` INT NULL,
  `Event_Price` INT NULL,
  PRIMARY KEY (`Reservation_ID`),
  INDEX `CustID_idx` (`CustID` ASC),
  INDEX `EventID_idx` (`EventID` ASC),
  CONSTRAINT `CustID`
    FOREIGN KEY (`CustID`)
    REFERENCES `vivanta by taj`.`customer` (`Customer_ID`)
    ON DELETE NO ACTION
    ON UPDATE NO ACTION,
  CONSTRAINT `EventID`
    FOREIGN KEY (`EventID`)
    REFERENCES `vivanta by taj`.`event` (`Event_ID`)
    ON DELETE NO ACTION
    ON UPDATE NO ACTION);
```

Insert



```
insert into Reservation (CustID, EventID, Floor_Number, Room_Number, Reservation_Type, Reservation_Start_Date, Reservation_End_Date, Room_Price, Event_Price)
values ('1', '1', '9', '902', 'Deluxe Room & Wedding Hall Rooftop Garden 10th Floor', '2017-12-08', '2017-12-10', '3000', '20000');
insert into Reservation (CustID, EventID, Floor_Number, Room_Number, Reservation_Type, Reservation_Start_Date, Reservation_End_Date, Room_Price, Event_Price)
values ('2', '1', '2', '210', 'Single Room', '2017-12-09', '2017-12-10', '500', null);
insert into Reservation (CustID, EventID, Floor_Number, Room_Number, Reservation_Type, Reservation_Start_Date, Reservation_End_Date, Room_Price, Event_Price)
values ('3', '1', '2', '211', 'Single Room', '2017-12-09', '2017-12-10', '500', null);
insert into Reservation (CustID, EventID, Floor_Number, Room_Number, Reservation_Type, Reservation_Start_Date, Reservation_End_Date, Room_Price, Event_Price)
values ('4', '1', '5', '508', 'Double Room', '2017-12-09', '2017-12-10', '900', null);
insert into Reservation (CustID, EventID, Floor_Number, Room_Number, Reservation_Type, Reservation_Start_Date, Reservation_End_Date, Room_Price, Event_Price)
values ('5', '1', '2', '209', 'Single Room', '2017-12-09', '2017-12-10', '500', null);
insert into Reservation (CustID, EventID, Floor_Number, Room_Number, Reservation_Type, Reservation_Start_Date, Reservation_End_Date, Room_Price, Event_Price)
values ('6', '1', '5', '509', 'Double Room', '2017-12-09', '2017-12-10', '900', null);
insert into Reservation (CustID, EventID, Floor_Number, Room_Number, Reservation_Type, Reservation_Start_Date, Reservation_End_Date, Room_Price, Event_Price)
values ('7', null,'7', '702', 'Single Room', '2017-12-12', '2017-12-15', '2700', null);
insert into Reservation (CustID, EventID, Floor_Number, Room_Number, Reservation_Type, Reservation_Start_Date, Reservation_End_Date, Room_Price, Event_Price)
values ('8', '2', '9', '901', 'Deluxe Room & Wedding Hall Rooftop Garden 10th Floor', '2017-12-17', '2017-12-19', '1500', '20000');
insert into Reservation (CustID, EventID, Floor_Number, Room_Number, Reservation_Type, Reservation_Start_Date, Reservation_End_Date, Room_Price, Event_Price)
values ('9', '2', '5', '505', 'Double Room', '2017-12-18', '2017-12-19', '900', null);
insert into Reservation (CustID, EventID, Floor_Number, Room_Number, Reservation_Type, Reservation_Start_Date, Reservation_End_Date, Room_Price, Event_Price)
values ('10', '2', '5', '504', 'Double Room', '2017-12-18', '2017-12-19', '900', null);
insert into Reservation (CustID, EventID, Floor_Number, Room_Number, Reservation_Type, Reservation_Start_Date, Reservation_End_Date, Room_Price, Event_Price)
values ('11', null,'7', '709', 'Single Room', '2017-12-21', '2017-12-23', '1800', null);
insert into Reservation (CustID, EventID, Floor_Number, Room_Number, Reservation_Type, Reservation_Start_Date, Reservation_End_Date, Room_Price, Event_Price)
values ('12', null,'7', '703', 'Single Room', '2017-12-25', '2017-12-27', '1800', null);
insert into Reservation (CustID, EventID, Floor_Number, Room_Number, Reservation_Type, Reservation_Start_Date, Reservation_End_Date, Room_Price, Event_Price)
values ('13', '1', '9', '904', 'Deluxe Room ', '2017-12-09', '2017-12-10', '1500', null);
insert into Reservation (CustID, EventID, Floor_Number, Room_Number, Reservation_Type, Reservation_Start_Date, Reservation_End_Date, Room_Price, Event_Price)
values ('14', '4', '4', '407', 'Double Room & Dining Hall 3rd Floor', '2017-12-06', '2017-12-07', '900', '10000');
insert into Reservation (CustID, EventID, Floor_Number, Room_Number, Reservation_Type, Reservation_Start_Date, Reservation_End_Date, Room_Price, Event_Price)
values ('15', '4', '4', '408', 'Double Room', '2017-12-06', '2017-12-07', '900', Null);
insert into Reservation (CustID, EventID, Floor_Number, Room_Number, Reservation_Type, Reservation_Start_Date, Reservation_End_Date, Room_Price, Event_Price)
values ('16', '3', '8', '804', 'Single Room', '2017-12-02', '2017-12-03', '500', Null);
insert into Reservation (CustID, EventID, Floor_Number, Room_Number, Reservation_Type, Reservation_Start_Date, Reservation_End_Date, Room_Price, Event_Price)
values ('17', '4', '4', '406', 'Double Room', '2017-12-06', '2017-12-07', '900', Null);
insert into Reservation (CustID, EventID, Floor_Number, Room_Number, Reservation_Type, Reservation_Start_Date, Reservation_End_Date, Room_Price, Event_Price)
values ('18', '2', '9', '910', 'Deluxe Room', '2017-12-18', '2017-12-19', '900', null);
insert into Reservation (CustID, EventID, Floor_Number, Room_Number, Reservation_Type, Reservation_Start_Date, Reservation_End_Date, Room_Price, Event_Price)
values ('19', '4', '2', '202', 'Single Room', '2017-12-06', '2017-12-07', '500', Null);
insert into Reservation (CustID, EventID, Floor_Number, Room_Number, Reservation_Type, Reservation_Start_Date, Reservation_End_Date, Room_Price, Event_Price)
values ('20', '4', '2', '204', 'Single Room', '2017-12-06', '2017-12-07', '500', Null);
insert into Reservation (CustID, EventID, Floor_Number, Room_Number, Reservation_Type, Reservation_Start_Date, Reservation_End_Date, Room_Price, Event_Price)
values ('21', '4', '2', '205', 'Single Room', '2017-12-06', '2017-12-07', '500', Null);
insert into Reservation (CustID, EventID, Floor_Number, Room_Number, Reservation_Type, Reservation_Start_Date, Reservation_End_Date, Room_Price, Event_Price)
values ('22', '3', '7', '607', 'Double Room & Conference Hall 6th Floor', '2017-12-02', '2017-12-03', '900', '6000');
insert into Reservation (CustID, EventID, Floor_Number, Room_Number, Reservation_Type, Reservation_Start_Date, Reservation_End_Date, Room_Price, Event_Price)
values ('23', '3', '7', '608', 'Double Room', '2017-12-02', '2017-12-03', '900', Null);
```

View



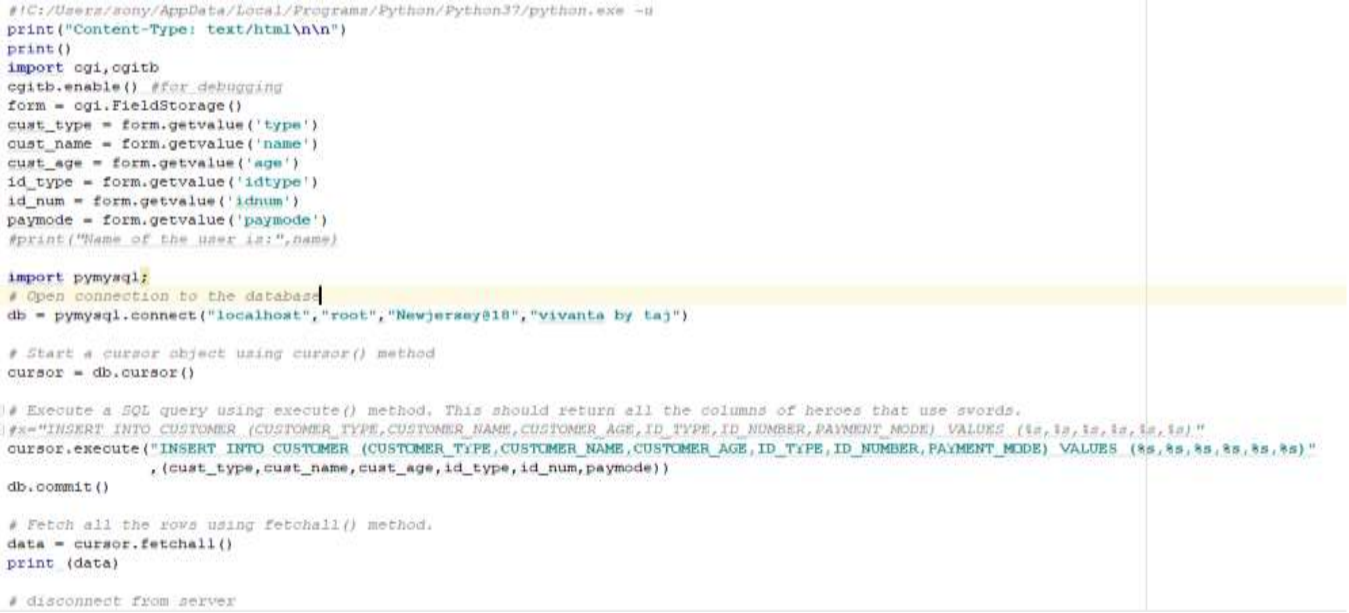
	Reservation_ID	CustID	EventID	Floor_Number	Room_Number	Reservation_Type	Reservation_Start_Date	Reservation_End_Date	Room_Price	Event_Price
▶	1	1	1	9	902	Deluxe Room & Wedding Hall Rooftop Garden 1...	2017-12-08	2017-12-10	3000	20000
	2	2	1	2	210	Single Room	2017-12-09	2017-12-10	500	NULL
	3	3	1	2	211	Single Room	2017-12-09	2017-12-10	500	NULL
	4	4	1	5	508	Double Room	2017-12-09	2017-12-10	900	NULL
	5	5	1	2	209	Single Room	2017-12-09	2017-12-10	500	NULL
	6	6	1	5	509	Double Room	2017-12-09	2017-12-10	900	NULL
	7	7	NULL	7	702	Single Room	2017-12-12	2017-12-15	2700	NULL
	8	8	2	9	901	Deluxe Room & Wedding Hall Rooftop Garden 1...	2017-12-17	2017-12-19	1500	20000
	9	9	2	5	505	Double Room	2017-12-18	2017-12-19	900	NULL
	10	10	2	5	504	Double Room	2017-12-18	2017-12-19	900	NULL
	11	11	NULL	7	709	Single Room	2017-12-21	2017-12-23	1800	NULL
	12	12	NULL	7	703	Single Room	2017-12-25	2017-12-27	1800	NULL
	13	13	1	9	904	Deluxe Room	2017-12-09	2017-12-10	1500	NULL
	14	14	4	4	407	Double Room & Dining Hall 3rd Floor	2017-12-06	2017-12-07	900	10000
	15	15	4	4	408	Double Room	2017-12-06	2017-12-07	900	NULL
	16	16	3	8	804	Single Room	2017-12-02	2017-12-03	500	NULL
	17	17	4	4	406	Double Room	2017-12-06	2017-12-07	900	NULL
	18	18	2	9	910	Deluxe Room	2017-12-18	2017-12-19	900	NULL
	19	19	4	2	202	Single Room	2017-12-06	2017-12-07	500	NULL
	20	20	4	2	204	Single Room	2017-12-06	2017-12-07	500	NULL
	21	21	4	2	205	Single Room	2017-12-06	2017-12-07	500	NULL
	22	22	3	7	607	Double Room & Conference Hall 6th Floor	2017-12-02	2017-12-03	900	6000
	23	23	3	7	608	Double Room	2017-12-02	2017-12-03	900	NULL
*	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

Part 3

1) Inserting the records in our Boutique Hotel through HTML page

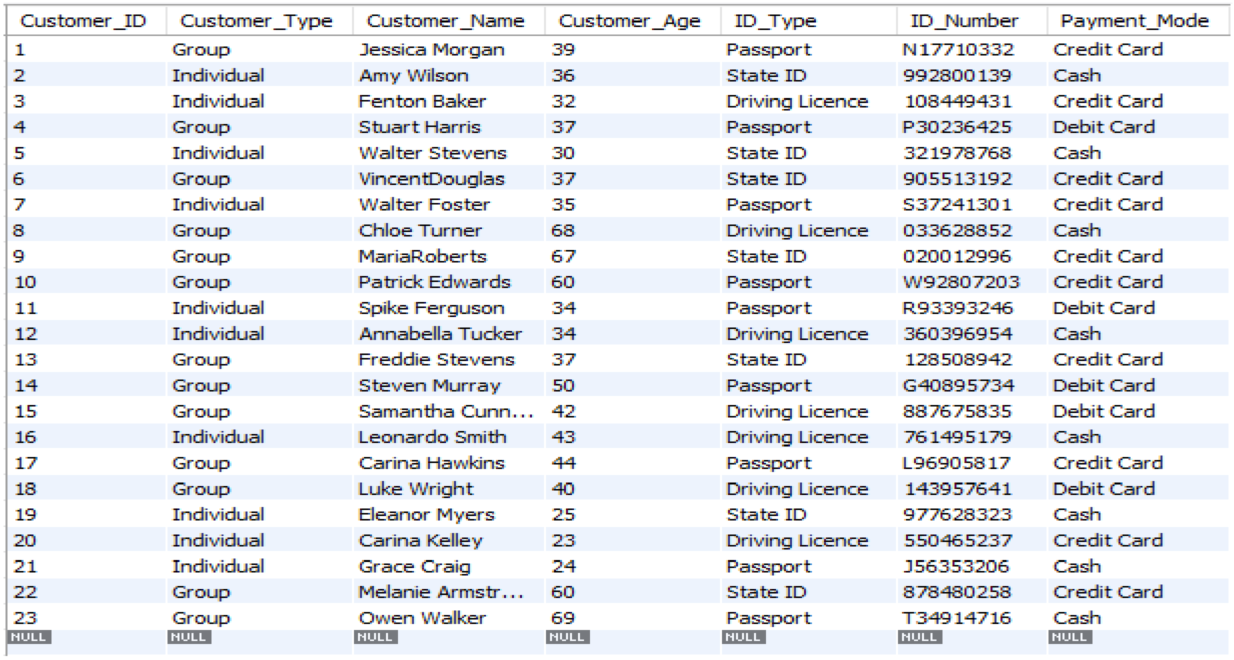
A) Customer's HTML Page

Python code for insertion into Customer table



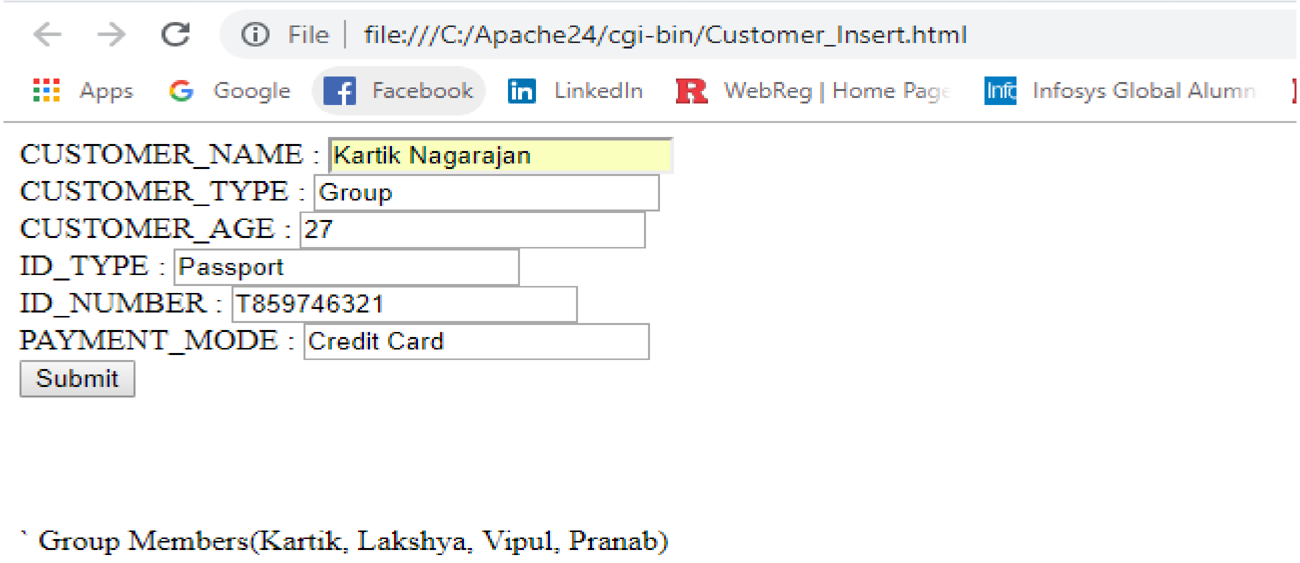
```
#!C:/Users/sony/AppData/Local/Programs/Python/Python37/python.exe -u
print("Content-Type: text/html\n\n")
print()
import cgi,cgitb
cgitb.enable() #for debugging
form = cgi.FieldStorage()
cust_type = form.getvalue('type')
cust_name = form.getvalue('name')
cust_age = form.getvalue('age')
id_type = form.getvalue('idtype')
id_num = form.getvalue('idnum')
paymode = form.getvalue('paymode')
#print("Name of the user is:",name)

import pymysql;
# Open connection to the database
db = pymysql.connect("localhost","root","Newjersey@18","vivanta by taj")

# Start a cursor object using cursor() method
cursor = db.cursor()

# Execute a SQL query using execute() method. This should return all the columns of heroes that use swords.
#x="INSERT INTO CUSTOMER (CUSTOMER_TYPE,CUSTOMER_NAME,CUSTOMER_AGE,ID_TYPE,ID_NUMBER,PAYMENT_MODE) VALUES (%s,%s,%s,%s,%s,%s)"
cursor.execute("INSERT INTO CUSTOMER (CUSTOMER_TYPE,CUSTOMER_NAME,CUSTOMER_AGE,ID_TYPE,ID_NUMBER,PAYMENT_MODE) VALUES (%s,%s,%s,%s,%s,%s)"
               ,(cust_type,cust_name,cust_age,id_type,id_num,paymode))
db.commit()

# Fetch all the rows using fetchall() method.
data = cursor.fetchall()
print (data)

# disconnect from server
```

View Customer Table



Customer_ID	Customer_Type	Customer_Name	Customer_Age	ID_Type	ID_Number	Payment_Mode
1	Group	Jessica Morgan	39	Passport	N17710332	Credit Card
2	Individual	Amy Wilson	36	State ID	992800139	Cash
3	Individual	Fenton Baker	32	Driving Licence	108449431	Credit Card
4	Group	Stuart Harris	37	Passport	P30236425	Debit Card
5	Individual	Walter Stevens	30	State ID	321978768	Cash
6	Group	VincentDouglas	37	State ID	905513192	Credit Card
7	Individual	Walter Foster	35	Passport	S37241301	Credit Card
8	Group	Chloe Turner	68	Driving Licence	033628852	Cash
9	Group	MariaRoberts	67	State ID	020012996	Credit Card
10	Group	Patrick Edwards	60	Passport	W92807203	Credit Card
11	Individual	Spike Ferguson	34	Passport	R93393246	Debit Card
12	Individual	Annabella Tucker	34	Driving Licence	360396954	Cash
13	Group	Freddie Stevens	37	State ID	128508942	Credit Card
14	Group	Steven Murray	50	Passport	G40895734	Debit Card
15	Group	Samantha Cunn...	42	Driving Licence	887675835	Debit Card
16	Individual	Leonardo Smith	43	Driving Licence	761495179	Cash
17	Group	Carina Hawkins	44	Passport	L96905817	Credit Card
18	Group	Luke Wright	40	Driving Licence	143957641	Debit Card
19	Individual	Eleanor Myers	25	State ID	977628323	Cash
20	Individual	Carina Kelley	23	Driving Licence	550465237	Credit Card
21	Individual	Grace Craig	24	Passport	J56353206	Cash
22	Group	Melanie Armstr...	60	State ID	878480258	Credit Card
23	Group	Owen Walker	69	Passport	T34914716	Cash
NULL	NULL	NULL	NULL	NULL	NULL	NULL

Customer’s webpage

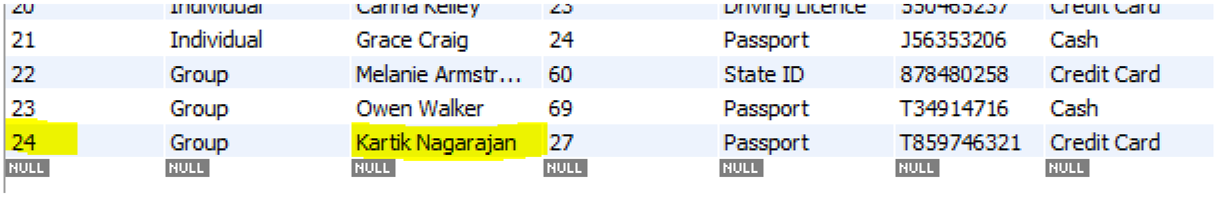


file:///C:/Apache24/cgi-bin/Customer_Insert.html

CUSTOMER_NAME : Kartik Nagarajan
CUSTOMER_TYPE : Group
CUSTOMER_AGE : 27
ID_TYPE : Passport
ID_NUMBER : T859746321
PAYMENT_MODE : Credit Card
Submit

` Group Members(Kartik, Lakshya, Vipul, Pranab)

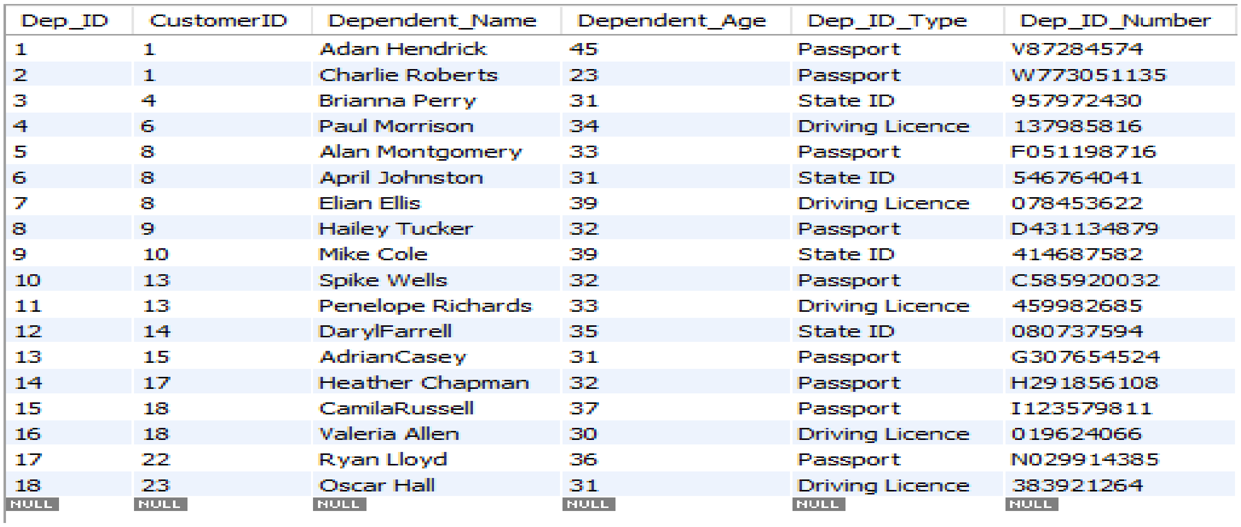
Updated Customer Table



20	Individual	Carina Kelley	23	Driving Licence	550465237	Credit Card
21	Individual	Grace Craig	24	Passport	J56353206	Cash
22	Group	Melanie Armstr…	60	State ID	878480258	Credit Card
23	Group	Owen Walker	69	Passport	T34914716	Cash
24	Group	Kartik Nagarajan	27	Passport	T859746321	Credit Card
NULL	NULL	NULL	NULL	NULL	NULL	NULL

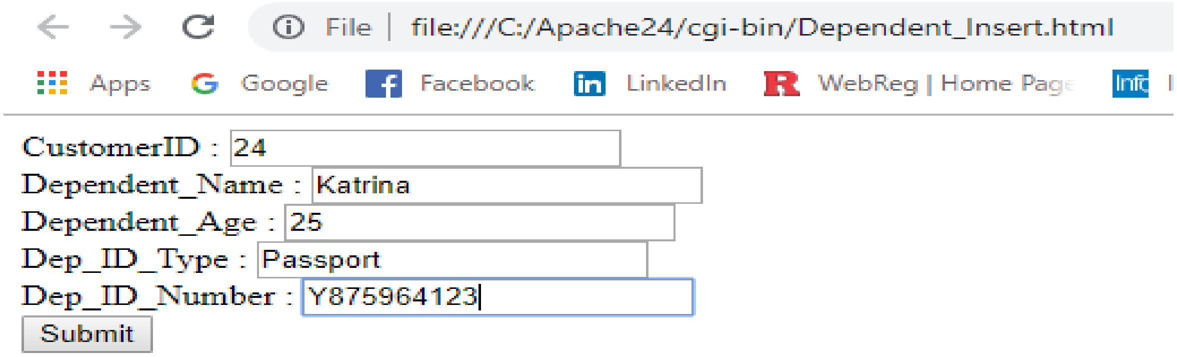
B) Dependent’s HTML Page

View Dependent Table



Dep_ID	CustomerID	Dependent_Name	Dependent_Age	Dep_ID_Type	Dep_ID_Number
1	1	Adan Hendrick	45	Passport	V87284574
2	1	Charlie Roberts	23	Passport	W773051135
3	4	Brianna Perry	31	State ID	957972430
4	6	Paul Morrison	34	Driving Licence	137985816
5	8	Alan Montgomery	33	Passport	F051198716
6	8	April Johnston	31	State ID	546764041
7	8	Elian Ellis	39	Driving Licence	078453622
8	9	Hailey Tucker	32	Passport	D431134879
9	10	Mike Cole	39	State ID	414687582
10	13	Spike Wells	32	Passport	C585920032
11	13	Penelope Richards	33	Driving Licence	459982685
12	14	DarylFarrell	35	State ID	080737594
13	15	AdrianCasey	31	Passport	G307654524
14	17	Heather Chapman	32	Passport	H291856108
15	18	CamilaRussell	37	Passport	I123579811
16	18	Valeria Allen	30	Driving Licence	019624066
17	22	Ryan Lloyd	36	Passport	N029914385
18	23	Oscar Hall	31	Driving Licence	383921264
NULL	NULL	NULL	NULL	NULL	NULL

Dependent's Webpage

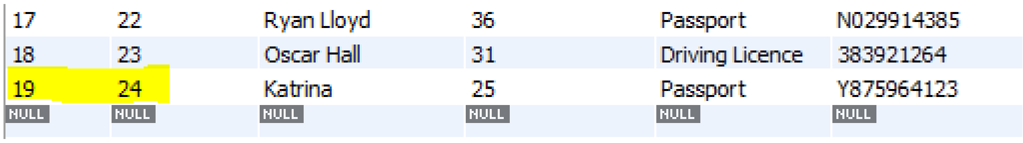


file:///C:/Apache24/cgi-bin/Dependent_Insert.html

CustomerID : 24
Dependent_Name : Katrina
Dependent_Age : 25
Dep_ID_Type : Passport
Dep_ID_Number : Y875964123

` Group Members(Kartik, Lakshya, Vipul, Pranab)

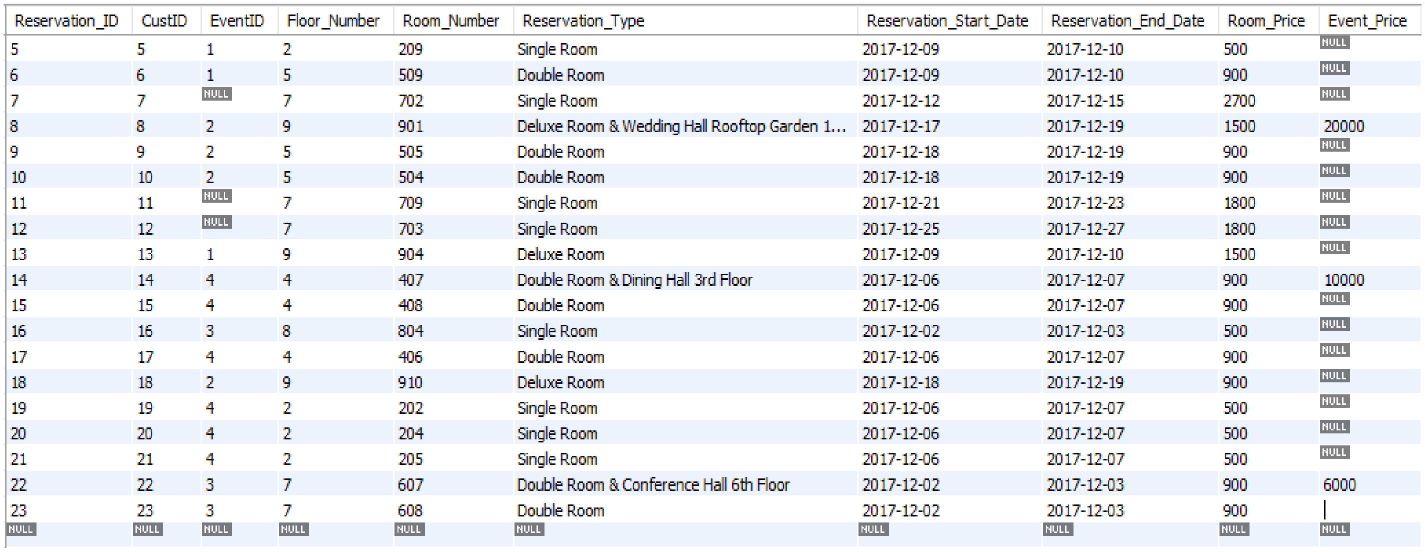
Updated Dependent Table



17	22	Ryan Lloyd	36	Passport	N029914385
18	23	Oscar Hall	31	Driving Licence	383921264
19	24	Katrina	25	Passport	Y875964123
NULL	NULL	NULL	NULL	NULL	NULL

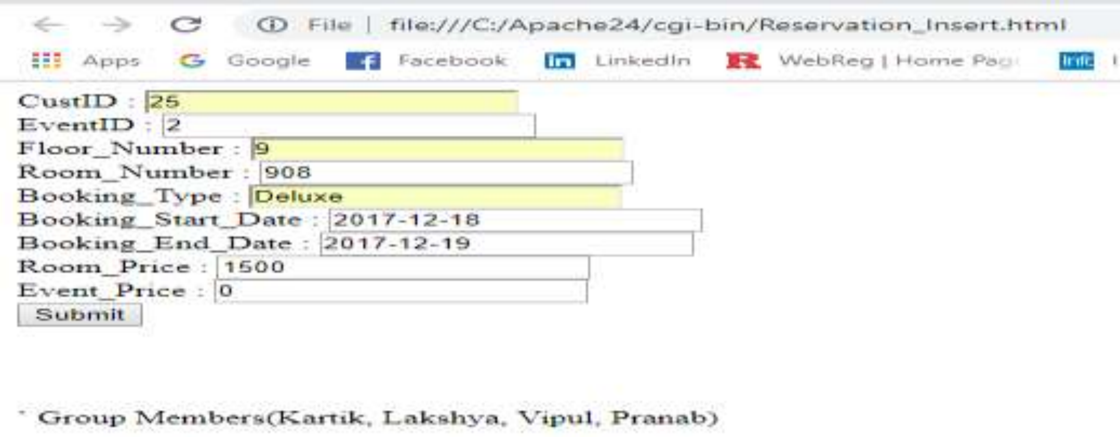
C) Reservation's HTML Page

View Reservation Table:



Reservation_ID	CustID	EventID	Floor_Number	Room_Number	Reservation_Type	Reservation_Start_Date	Reservation_End_Date	Room_Price	Event_Price
5	5	1	2	209	Single Room	2017-12-09	2017-12-10	500	NULL
6	6	1	5	509	Double Room	2017-12-09	2017-12-10	900	NULL
7	7	NULL	7	702	Single Room	2017-12-12	2017-12-15	2700	NULL
8	8	2	9	901	Deluxe Room & Wedding Hall Rooftop Garden 1...	2017-12-17	2017-12-19	1500	20000
9	9	2	5	505	Double Room	2017-12-18	2017-12-19	900	NULL
10	10	2	5	504	Double Room	2017-12-18	2017-12-19	900	NULL
11	11	NULL	7	709	Single Room	2017-12-21	2017-12-23	1800	NULL
12	12	NULL	7	703	Single Room	2017-12-25	2017-12-27	1800	NULL
13	13	1	9	904	Deluxe Room	2017-12-09	2017-12-10	1500	NULL
14	14	4	4	407	Double Room & Dining Hall 3rd Floor	2017-12-06	2017-12-07	900	10000
15	15	4	4	408	Double Room	2017-12-06	2017-12-07	900	NULL
16	16	3	8	804	Single Room	2017-12-02	2017-12-03	500	NULL
17	17	4	4	406	Double Room	2017-12-06	2017-12-07	900	NULL
18	18	2	9	910	Deluxe Room	2017-12-18	2017-12-19	900	NULL
19	19	4	2	202	Single Room	2017-12-06	2017-12-07	500	NULL
20	20	4	2	204	Single Room	2017-12-06	2017-12-07	500	NULL
21	21	4	2	205	Single Room	2017-12-06	2017-12-07	500	NULL
22	22	3	7	607	Double Room & Conference Hall 6th Floor	2017-12-02	2017-12-03	900	6000
23	23	3	7	608	Double Room	2017-12-02	2017-12-03	900	
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

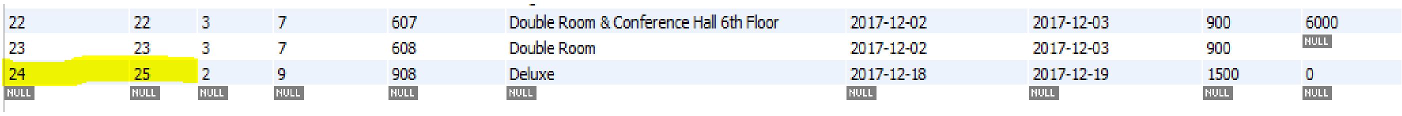
Reservation’s Webpage



CustID : 25
EventID : 2
Floor_Number : 9
Room_Number : 908
Booking_Type : Deluxe
Booking_Start_Date : 2017-12-18
Booking_End_Date : 2017-12-19
Room_Price : 1500
Event_Price : 0

* Group Members(Kartik, Lakshya, Vipul, Pranab)

Updated Reservation Table

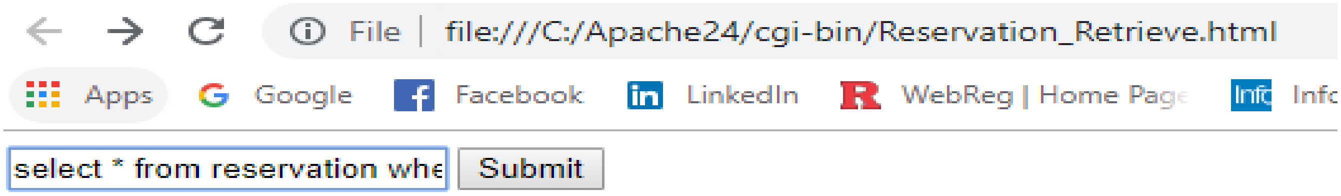


22	22	3	7	607	Double Room & Conference Hall 6th Floor	2017-12-02	2017-12-03	900	6000
23	23	3	7	608	Double Room	2017-12-02	2017-12-03	900	NULL
24	25	2	9	908	Deluxe	2017-12-18	2017-12-19	1500	0
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

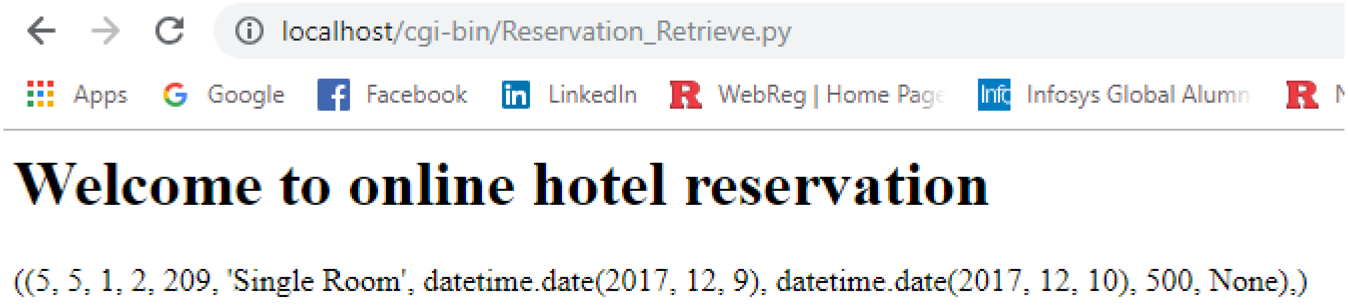
2) Fetching the Customer Reservations from our database through HTML

Retrieval from Reservation Table:

Select * from reservation where custid = ‘5’;



```
select * from reservation whe
```



Welcome to online hotel reservation

```
((5, 5, 1, 2, 209, 'Single Room', datetime.date(2017, 12, 9), datetime.date(2017, 12, 10), 500, None),)
```