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HOTEL RESERVATION SYSTEM

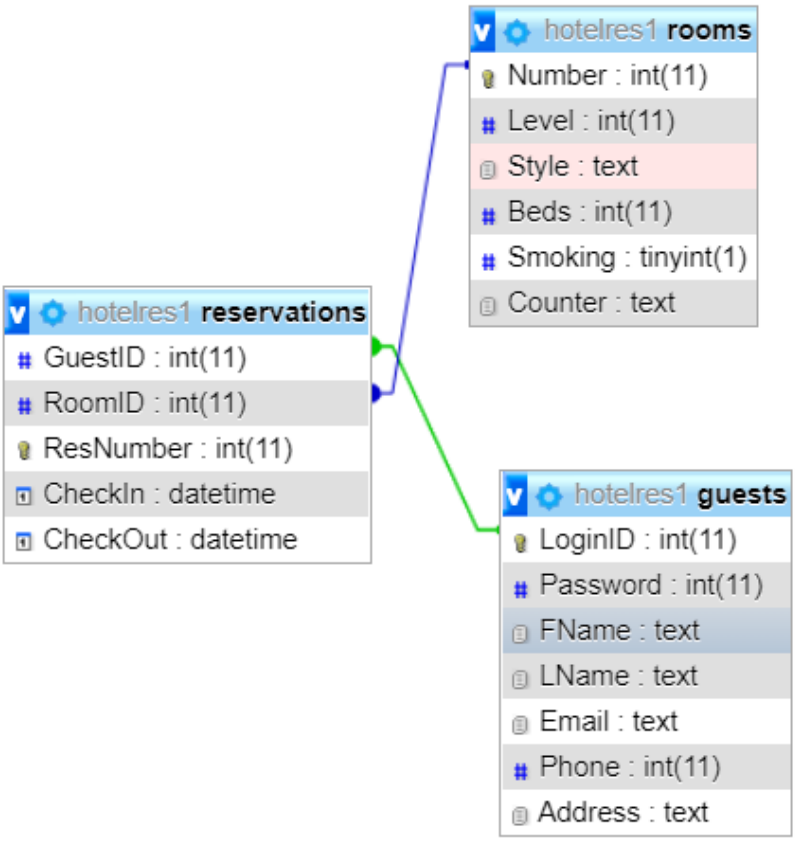
We are doing our project in python programming language and we are using Pymysql database. Firstly we have decided database schema and we have been created the database which is called 'hotelproject'.

Then, we applied some database command to create our tables.

```
CREATE TABLE `guests` (
`LoginID` int(11) NOT NULL AUTO_INCREMENT,
`FName` text NOT NULL,
`LName` text NOT NULL,
`Email` text NOT NULL,
`Password` int(11) NOT NULL,
`Phone` int(11) NOT NULL,
`Address` text DEFAULT NULL,
PRIMARY KEY (`LoginID`))
ENGINE=InnoDB AUTO_INCREMENT=29 DEFAULT CHARSET=utf8mb4
```

```
CREATE TABLE `rooms` (
`Number` int(11) NOT NULL AUTO_INCREMENT,
`Level` int(11) DEFAULT NULL,
`Style` text DEFAULT NULL,
`Beds` int(11) DEFAULT NULL,
`Smoking` tinyint(1) DEFAULT NULL,
`Counter` text DEFAULT NULL,
PRIMARY KEY (`Number`))
 ENGINE=InnoDB AUTO_INCREMENT=20 DEFAULT CHARSET=utf8mb4
```

```
CREATE TABLE `reservations` (
`GuestID` int(11) NOT NULL,
`RoomID` int(11) NOT NULL,
`ResNumber` int(11) NOT NULL AUTO_INCREMENT,
`CheckIn` datetime DEFAULT NULL,
`CheckOut` datetime DEFAULT NULL,
PRIMARY KEY (`ResNumber`),
KEY `GuestID` (`GuestID`),
KEY `RoomID` (`RoomID`),
CONSTRAINT `reservations_ibfk_1` FOREIGN KEY (`GuestID`) REFERENCES `guests`
(`LoginID`),
CONSTRAINT `reservations_ibfk_3` FOREIGN KEY (`RoomID`) REFERENCES `rooms`
(`Number`))
ENGINE=InnoDB AUTO_INCREMENT=54 DEFAULT CHARSET=utf8mb4
```



Relationship (picture 1)

We added the data in our database. We used this sql command:

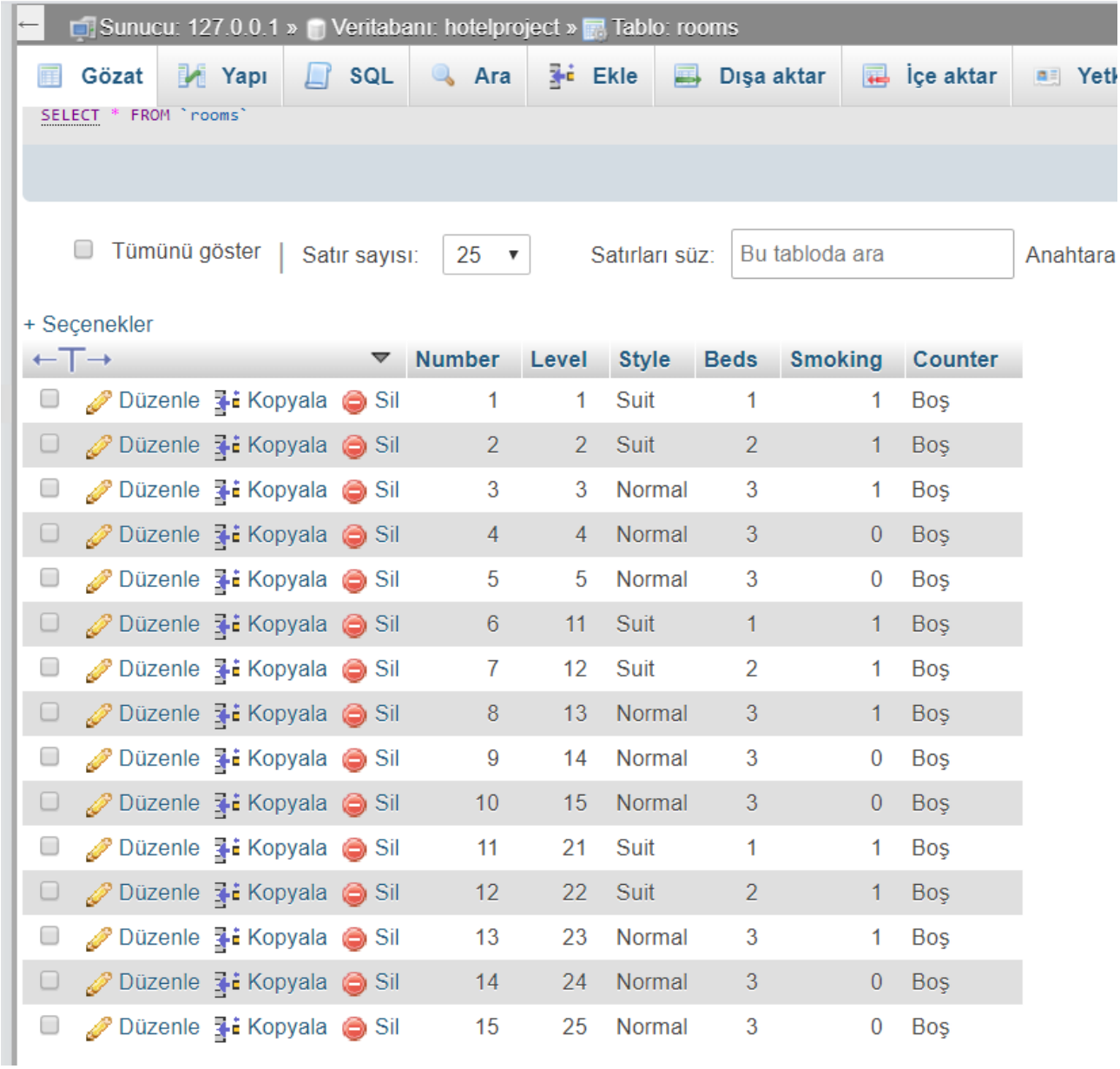
```
sqlQuery = "CREATE TABLE IF NOT EXISTS guests( LoginID INT PRIMARY KEY, Pass
word INT NOT NULL, FName TEXT NOT NULL, LName TEXT NOT NULL, Email TEXT NOT
NULL, Phone INT NOT NULL , Address TEXT)"

 sqlQuery2 = "CREATE TABLE IF NOT EXISTS rooms(Number INT PRIMARY KEY , Level INT ,
Style TEXT, Beds INT, Smoking BOOLEAN)"

 sqlQuery3 = "CREATE TABLE IF NOT EXISTS reservations(ResNumber INT PRIMARY
KEY, CheckIn DATETIME, CheckOut DATETIME,GuestID INT)"
 cursor.execute(sqlQuery)
 cursor.execute(sqlQuery2)
 cursor.execute(sqlQuery3)
```

This sql command create table if there is no table as guests with entities. And also we have primary keys, we wrote here and also if there is something important we don't allow NULL , user has to input.

```
    adding= "INSERT INTO rooms  (Level,Style,Beds,Smoking,Counter)
                    VALUES (1,'Suit',1,True,'Boş')"
    adding2= "INSERT INTO rooms (Level,Style,Beds,Smoking,Counter)
                                    VALUES (2,'Suit',2,True,'Boş') "
    adding3= "INSERT INTO rooms (Level,Style,Beds,Smoking, Counter)
                                    VALUES (3,'Normal',3,True,'Boş')"
    adding4= "INSERT INTO rooms (Level,Style,Beds,Smoking,Counter)
                                        VALUES (4,'Normal',3,False,'Boş')"
adding5= "INSERT INTO rooms (Level,Style,Beds,Smoking,Counter)
                                    VALUES (5,'Normal',3,False,'Boş')"
    adding6= "INSERT INTO rooms  (Level,Style,Beds,Smoking,Counter)
                                    VALUES (11,'Suit',1,True,'Boş')"
    adding7= "INSERT INTO rooms (Level,Style,Beds,Smoking,Counter)
                                    VALUES (12,'Suit',2,True,'Boş')"
    adding8= "INSERT INTO rooms (Level,Style,Beds,Smoking,Counter)
                                    VALUES (13,'Normal',3,True,'Boş')"
    adding9= "INSERT INTO rooms (Level,Style,Beds,Smoking,Counter)
                                    VALUES (14,'Normal',3,False,'Boş')"
    adding10= "INSERT INTO rooms (Level,Style,Beds,Smoking,Counter)
                                    VALUES (15,'Normal',3,False,'Boş')"
    adding11= "INSERT INTO rooms  (Level,Style,Beds,Smoking,Counter)
                                    VALUES (21,'Suit',1,True,'Boş')"
    adding12= "INSERT INTO rooms (Level,Style,Beds,Smoking,Counter)
                                     VALUES (22,'Suit',2,True,'Boş')"
    adding13= "INSERT INTO rooms (Level,Style,Beds,Smoking,Counter)
                                    VALUES (23,'Normal',3,True,'Boş')"
    adding14= "INSERT INTO rooms (Level,Style,Beds,Smoking,Counter)
                                    VALUES (24,'Normal',3,False,'Boş')"
    adding15= "INSERT INTO rooms (Level,Style,Beds,Smoking,Counter)
                                    VALUES (25,'Normal',3,False,'Boş')"
```

```
    cursor = connection.cursor()
    cursor.execute(adding)
    cursor.execute(adding2)
    cursor.execute(adding3)
    cursor.execute(adding4)
    cursor.execute(adding5)
    cursor.execute(adding6)
    cursor.execute(adding7)
    cursor.execute(adding8)
    cursor.execute(adding9)
    cursor.execute(adding10)
    cursor.execute(adding11)
    cursor.execute(adding12)
    cursor.execute(adding13)
    cursor.execute(adding14)
    cursor.execute(adding15)
```

On this part we add rooms on our database. Our rooms table has 6 entities. They are Number , Level , Style , Beds,Smooking,Counter. We use Auto Increment for number, have 15 rooms and there are 2 syle Suit and Normal. In some rooms smooking free but some rooms don't. And also we have a Counter for check , is room empty or not? It looks like on PHPadmin :



	Number	Level	Style	Beds	Smoking	Counter
Düzenle Kopyala Sil	1	1	Suit	1	1	Boş
Düzenle Kopyala Sil	2	2	Suit	2	1	Boş
Düzenle Kopyala Sil	3	3	Normal	3	1	Boş
Düzenle Kopyala Sil	4	4	Normal	3	0	Boş
Düzenle Kopyala Sil	5	5	Normal	3	0	Boş
Düzenle Kopyala Sil	6	11	Suit	1	1	Boş
Düzenle Kopyala Sil	7	12	Suit	2	1	Boş
Düzenle Kopyala Sil	8	13	Normal	3	1	Boş
Düzenle Kopyala Sil	9	14	Normal	3	0	Boş
Düzenle Kopyala Sil	10	15	Normal	3	0	Boş
Düzenle Kopyala Sil	11	21	Suit	1	1	Boş
Düzenle Kopyala Sil	12	22	Suit	2	1	Boş
Düzenle Kopyala Sil	13	23	Normal	3	1	Boş
Düzenle Kopyala Sil	14	24	Normal	3	0	Boş
Düzenle Kopyala Sil	15	25	Normal	3	0	Boş

TABLE: rooms (picture 2)

adding= "INSERT INTO guests (Password,Fname,Lname,Email,Phone,Address)VALUES (1234,'Berfin','Gokmen','berfin@gmail.com***',1234,'Bolu')"***
adding2= "INSERT INTO guests (Password,Fname,Lname,Email,Phone,Address) VALUES (123,'Bernur','Ancel','bernur@gmail.com',123,'Ankara')"
adding3= "INSERT INTO guests (Password,Fname,Lname,Email,Phone,Address) VALUES (12378,'Büşra','Durak','busra@gmail.com',53300,'İstanbul')"
adding4= "INSERT INTO guests (Password,Fname,Lname,Email,Phone,Address) VALUES (987, 'Yagmur' ,'Demir',' yagmur@gmail.com ', 0101,'Adana')"

```
adding5= "INSERT INTO guests (Password,Fname,Lname,Email,Phone,Address) VALUES (123
45,'Asile','Gerek','asile@gmail.com',12345,'Adana')"
adding6= "INSERT INTO guests (Password,Fname,Lname,Email,Phone,Address)
VALUES (123456, 'Merve' ,'Bozkurt',' merve@gmail.com ',2727,'Gaziantep')"
```

```
cursor = connection.cursor()
cursor.execute(adding)
cursor.execute(adding2)
cursor.execute(adding3)
cursor.execute(adding4)
cursor.execute(adding5)
cursor.execute(adding6)
```

On this part we add guests on our database. Our guests table has 7 entities. They are LoginID, Password, Fname,Lname,Email ,Phone,Address. We use Auto Increment for LoginID.

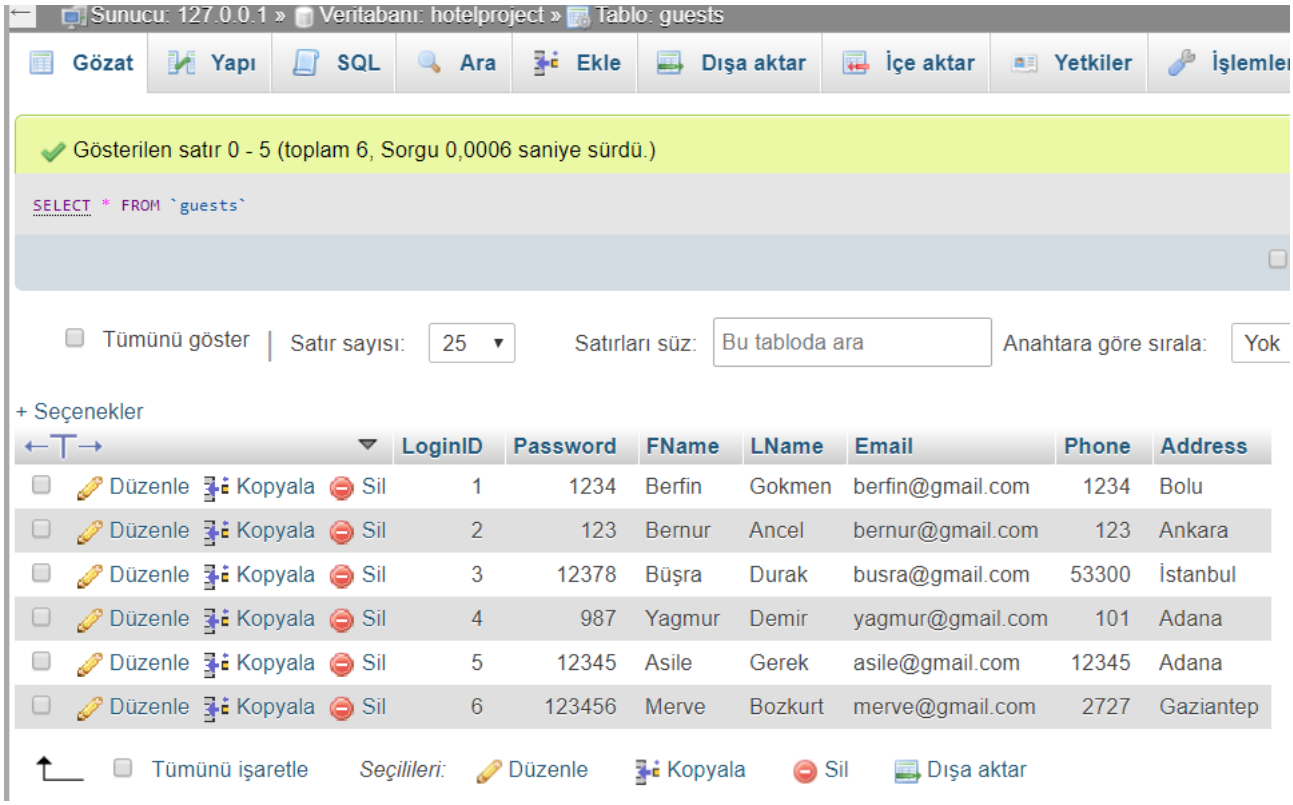


TABLE: Guests (picture 3)

```
adding= "INSERT INTO reservations (GuestID,RoomID,CheckIn,Checkout)
         SELECT LoginID, Number, '2020-05-17', '2020-05-17'
         From guests, rooms Where Email='berfin@gmail.com' and Number=1"
adding2= "INSERT INTO reservations (GuestID,RoomID,CheckIn,Checkout)
         SELECT LoginID, Number, '2020-06-17', '2020-06-23'
         From guests, rooms Where Email='bernur@gmail.com' and Number=2"
adding3= "INSERT INTO reservations (GuestID,RoomID,CheckIn,Checkout)
         SELECT LoginID, Number, '2020-07-17', '2020-07-20'
         From guests, rooms Where Email='busra@gmail.com' and Number=3"
```

```
adding4= "INSERT INTO reservations (GuestID,RoomID,CheckIn,Checkout)
                SELECT LoginID, Number,  '2020-08-17',  '2020-08-21'
       From guests,rooms Where Email='yagmur@gmail.com' and Number=4"
adding5= "INSERT INTO reservations (GuestID,RoomID,CheckIn,Checkout)
                SELECT LoginID, Number,  '2020-09-17',  '2020-09-18'
                From guests, rooms Where Email='asile@gmail.com' and Number=7"
adding6= "INSERT INTO reservations (GuestID,RoomID,CheckIn,Checkout)
                SELECT LoginID, Number,  '2020-10-17',  '2020-10-19'
                From guests, rooms Where Email='merve@gmail.com' and Number=6"
```

```
sorgu= "UPDATE rooms SET Counter = 'Dolu' Where Number = 1"
sorgu1="UPDATE rooms SET Counter = 'Dolu' Where Number = 2"
sorgu2="UPDATE rooms SET Counter = 'Dolu' Where Number = 3"
sorgu3="UPDATE rooms SET Counter = 'Dolu' Where Number = 4"
sorgu4="UPDATE rooms SET Counter = 'Dolu' Where Number = 6"
sorgu5="UPDATE rooms SET Counter = 'Dolu' Where Number = 7"
```

```
cursor = connection.cursor()
```

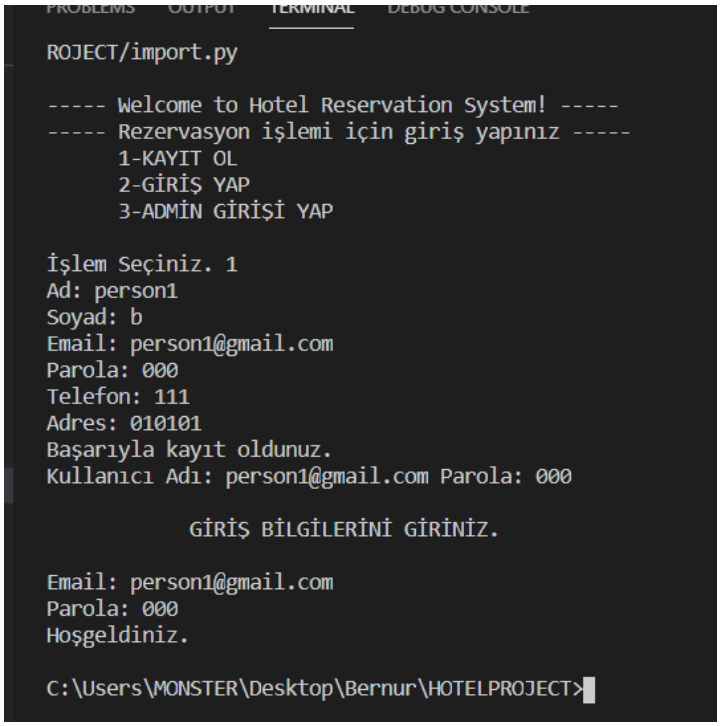
```
cursor.execute(adding)
cursor.execute(adding2)
cursor.execute(adding3)
cursor.execute(adding4)
cursor.execute(adding5)
cursor.execute(adding6)

cursor.execute(sorgu)
cursor.execute(sorgu1)
cursor.execute(sorgu2)
cursor.execute(sorgu3)
cursor.execute(sorgu4)
cursor.execute(sorgu5)
```

On this part we add reservations in our database. Our reservation table has 5 entities. They are ResNumber, CheckIb, CheckOut,GuestID,RoomID. We use Auto Increment for ResNumber.

For example; this code :

adding= *"INSERT INTO reservations (GuestID,RoomID,CheckIn,Checkout)*
SELECT LoginID, Number, '2020-05-17', '2020-05-17'
From guests, rooms Where Email='berfin@gmail.com' and Number=1"
And this guest added to reservation table.

If we look into the working part of our program;



When we run our program there will be 3 options :
1-KAYIT OL
2-GİRİŞ YAP
3-ADMİN GİRİŞİ YAP

We have designed a function to register guests and admin as kayit(). You can register to the system with option 1. In the guest table below, person1 has been registered.

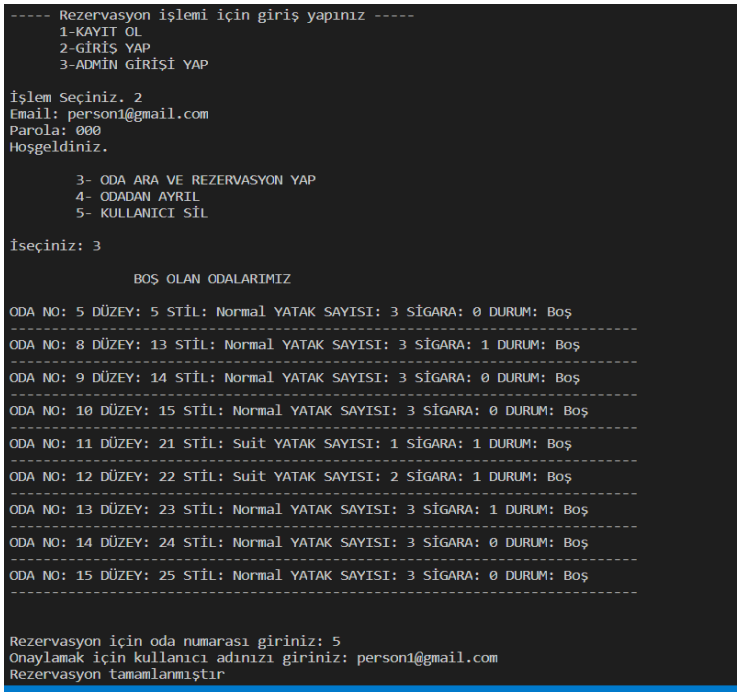
+ Seçenekler

	LoginID	Password	FName	LName	Email	Phone	Address
Düzenle Kopyala Sil	1	1234	Berfin	Gokmen	berfin@gmail.com	1234	Bolu
Düzenle Kopyala Sil	2	123	Bernur	Ancel	bernur@gmail.com	123	Ankara
Düzenle Kopyala Sil	3	12378	Büşra	Durak	busra@gmail.com	53300	İstanbul
Düzenle Kopyala Sil	4	987	Yagmur	Demir	yagmur@gmail.com	101	Adana
Düzenle Kopyala Sil	5	12345	Asile	Gerek	asile@gmail.com	12345	Adana
Düzenle Kopyala Sil	6	123456	Merve	Bozkurt	merve@gmail.com	2727	Gaziantep
Düzenle Kopyala Sil	7	0	person1	b	person1@gmail.com	111	010101

TABLE : GUESTS – ADD_GUEST

After registering to the system, it is necessary to log in to see the empty rooms, make reservations or delete users.

To log in, 2. option should be selected. Then giris() function will run and log in will be successful.



person1 has been logged in. Then there will be 3 options:

3-ODA ARA VE REZERVASYON YAP
4-ODADAN AYRIL
5-KULLANICI SİL

To make a room reservation, 3 should be selected. Then with odagoster() function the empty rooms will be shown. After that rezervasyonyap() function will be executed. Then, room number will be entered and reservation will be completed with email verification.

If 4. option is selected, rezervasyonsil() funciton will be executed. The reservation will be deleted and the room will be empty again.

If 5. option is selected, kullanicisil() function will be executed and the user will be deleted by entering the e-mail address of the guest you wish to delete.

+ Seçenekler

	LoginID	Password	FName	LName	Email	Phone	Address
Düzenle Kopyala Sil	1	1234	Berfin	Gokmen	berfin@gmail.com	1234	Bolu
Düzenle Kopyala Sil	2	123	Bernur	Ancel	bernur@gmail.com	123	Ankara
Düzenle Kopyala Sil	3	12378	Büşra	Durak	busra@gmail.com	53300	İstanbul
Düzenle Kopyala Sil	4	987	Yagmur	Demir	yagmur@gmail.com	101	Adana
Düzenle Kopyala Sil	5	12345	Asile	Gerek	asile@gmail.com	12345	Adana
Düzenle Kopyala Sil	6	123456	Merve	Bozkurt	merve@gmail.com	2727	Gaziantep

If you want to admin login, then you should select option 3 when the program has been executed. If admin hasn't been registered, then it should be register first.(1.option)

1-KAYIT OL
2-GİRİŞ YAP
3-ADMİN GİRİŞİ YAP (admingirisiyap()function will be executed on this part.)

```
----- Welcome to Hotel Reservation System! -----
----- Rezervasyon işlemi için giriş yapınız -----
      1-KAYIT OL
      2-GİRİŞ YAP
      3-ADMİN GİRİŞİ YAP

İşlem Seçiniz. 3
Admin kullanıcı adını giriniz: admin
Admin şifresini giriniz: 1234


               1-Kullanıcı Sil
               2-Oda Sil


Yapmak istediğiniz işlemi seçin:
```

After admin login, you have 2 option:

1-KULLANICI SİL
2-ODA SİL

If you want to delete a guest select 1 and kullanicisil() function will be run:

```
----- Welcome to Hotel Reservation System! -----
----- Rezervasyon işlemi için giriş yapınız -----
      1-KAYIT OL
      2-GİRİŞ YAP
      3-ADMİN GİRİŞİ YAP

İşlem Seçiniz. 3
Admin kullanıcı adını giriniz: admin
Admin şifresini giriniz: 1234


               1-Kullanıcı Sil
               2-Oda Sil


Yapmak istediğiniz işlemi seçin: 1
Silmek istediğiniz kullanıcının mail adresini giriniz: person1@gmail.com
Başarıyla silindi...

C:\Users\MONSTER\Desktop\Bernur\HOTELPROJECT>
```

Or you can select 2 if you want to delete a room then odasil() function will be run:

```
----- Welcome to Hotel Reservation System! -----
----- Rezervasyon işlemi için giriş yapınız -----
      1-KAYIT OL
      2-GİRİŞ YAP
      3-ADMİN GİRİŞİ YAP

İşlem Seçiniz. 3
Admin kullanıcı adını giriniz: admin
Admin şifresini giriniz: 1234


               1-Kullanıcı Sil
               2-Oda Sil


Yapmak istediğiniz işlemi seçin: 2
Silmek istediğiniz odanın numarasını giriniz: 15
Başarıyla silindi...
```

A Foreign Key is a column or a combination of columns whose values match a Primary Key in a different table. The relationship between 2 tables matches the Primary Key in one of the tables with a Foreign Key in the second table.

These codes allow us to generate foreign keys.:

```
try:
   with connection.cursor() as cursor:

      sorgu1="ALTER TABLE reservations ADD COLUMN RoomID INT"
      sorgu = "ALTER TABLE reservations ADD FOREIGN KEY (RoomID) REFERENCES
rooms(Number)"
      sorgu2 = "ALTER TABLE reservations ADD FOREIGN KEY (GuestID) REFERENCES
guests(LoginID)"
      cursor.execute(sorgu1)
      cursor.execute(sorgu)
      cursor.execute(sorgu2)

      connection.commit()
```

The keys that appear in gray are our foreign keys.

	#	Adı	Türü	Karşılaştırma	Öznitelikler	Boş	Varsayılan	Açıklamalar	Ekstra
☐	1	**ResNumber**	int(11)			Hayır	*Yok*		AUTO_INCREMENT
☐	2	**CheckIn**	datetime			Evet	*NULL*		
☐	3	**CheckOut**	datetime			Evet	*NULL*		
☐	4	**GuestID**	int(11)			Evet	*NULL*		
☐	5	**RoomID**	int(11)			Evet	*NULL*		