MySQL Tutorial

SQL Tutorial: https://www.w3schools.com/sql/default.asp

You can improve your SQL skills from the link given above. It has several examples for the beginners.

SQL Query	Explanation
create database ceng302;	Creates a database called ceng302
use database ceng302;	access ceng302 database
create table patient(PatientID int not null, Name varchar(20) not null, Gender varchar(10) not null, Birthday date not null, primary key(PatientID));	creates a table called patient
create table Phone(PhoneID int not null, PhoneNo varchar(20) not null, primary key(PhoneID));	creates a table called phone
create table P_Phone(PatientID int not null, PhoneID int not null, primary key(PatientID,PhoneID), constraint patient foreign key(PatientID) references patient(PatientID), constraint phone foreign key(PhoneID) references phone(PhoneID));	creates a table called p_phone, also defines the foreign key constraints.
insert into patient values(900001,'Ahmet','Male','1989-03-01'); insert into patient values(900002,'Melike','Female','1967-04-11'); insert into patient values(900003,'Hasan','Male','1949-04-23'); insert into patient values(900004,'Hikmet','Male','1996-06-15'); insert into patient values(900005,'Ceren','Female','1991-10-10');	inserting values into patient table
insert into phone values(10001,'0-312-1111111'); insert into phone values(10002,'0-555-1234567'); insert into phone values(10003,'0-532-0246579'); insert into phone values(10004,'0-312-9999999'); insert into phone values(10005,'0-216-2002002');	inserting values into phone table

insert into p_phone values(900001,10001);
insert into p_phone values(900001,10002);
insert into p_phone values(900002,10003);
insert into p_phone values(900002,10004);
	inserting values into p_phone table

insert into p_phone values(900003,10006);	the query will result an error since there is no record 10006 in the phone table
delete from patient where PatientID=900001;	the query will result an error since p_phone table refers values of patient table and foreign key constraints restrict it.
delete from patient where PatientID=900005;	the query will work without error
delete from p_phone where PatientID=900002 and PhoneID=10004;	the query will work without error
ALTER TABLE p_phone drop FOREIGN KEY patient;	The foreign key constraint is removed.

alter table p_phone ADD constraint patient foreign key (PatientID) references patient (PatientID) ON DELETE CASCADE;	A new foreign key constraint is added and foreign key constraint's default deletion property is not used and changed with the cascade property. This property allows the child table record(s) to be deleted automatically when the associated parent table record(s) are deleted.
delete from patient where PatientID=900001;	It will work properly and records including 900001 in child table will be removed.
ALTER TABLE p_phone drop FOREIGN KEY phone;	The foreign key constraint is removed.
ALTER TABLE p_phone ADD constraint phone foreign key(PhoneID) references phone(PhoneID) ON DELETE cascade on update cascade;	If a deletion and an update is done in parent table, it will also delete and update in child table.
UPDATE phone SET PhoneID=10006 WHERE PhoneID=10003;	Updates 10003 with 10006 and updates the value in child table since the update property is cascade.

- Before running the following queries, create a new database (or delete the existing one) and run only create and insert queries except the last query (i.e. skip the query "insert into p_phone values(900003,10006);")

Queries

- select * from p_phone;
- select name, gender from patient;
- select * from patient where name='Ahmet';
- select * from patient p, p_phone pp where p.PatientID=pp.PatientID; -- *inner join*
- select max(PatientID) from patient; -- maximum patientID
- select count(*) from patient; -- count all the records.
- select count(*) from patient where gender='Female'; -- *count the females.*
- select gender, count(gender) from patient group by gender; -- *male ve females count in separate columns.*
- select gender, count(gender) from patient group by gender having gender='Male'; -- *only males count*
- select * from patient where PatientID in (select PatientID from p_phone where PhoneID=10001); -- *subquery example*
- select * from patient where exists (select * from p_phone where patient.PatientID=p_phone.PatientID); -- *exists query returns (true/false) inside the paranthesis.*