SQL project 3

1. Creating the tables:

Run SQL query/queries on database test:

```
create table Employee(
    SSN int NOT NULL check (len(SSN)=10),
    DOB date NOT NULL,
    Name varchar(50) NOT NULL,
    FName varchar(25) NOT NULL,
    MInit varchar(25),
    LName varchar(25) NOT NULL,
    Address varchar(50) NOT NULL,
    EmployeeType boolean NOT NULL,
    PRIMARY key (SSN));
```

```
CREATE table Department(
    DeptNum int NOT NULL,
    DeptName varchar(25) NOT Null,
    NoOfEmployees int NOT Null,
    ManagerID int,
    PRIMARY KEY (DeptNum),
    UNIQUE (DeptName),
    FOREIGN Key(ManagerID) REFERENCES SalariedEmployee(SSN));
```

```sql
CREATE table Project(
    ProjNum int NOT NULL,
    ProjName varchar(50) NOT NULL,
    ProjDescription varchar(250),
    CONSTRAINT PK_Project PRIMARY KEY (ProjNum,ProjName));
```

```sql
create table dependents(
SSN int NOT NULL,
Name varchar(25) NOT NULL,
Relationship varchar(25),
constraint PK_Dependents primary key (SSN, Name),
FOREIGN key (SSN) REFERENCES employee(SSN));
```

```sql
CREATE TABLE SalariedEmployee (
    SSN int NOT NULL,
    MonthlySalary numeric(10,2),
    PRIMARY key (SSN),
    FOREIGN KEY (SSN) REFERENCES Employee(SSN)
);
```

```sql
CREATE TABLE HourlyPay (
    SSN int NOT NULL,
    HourlyPay numeric(10,2) check ((HourlyPay) >= 7.50),
    PRIMARY key (SSN),
    FOREIGN KEY (SSN) REFERENCES Employee(SSN)
);
```

```sql
create table Location(
    DeptNum int Not Null,
    Location varchar(25) NOT Null,
    primary key (DeptNum, Location),
    foreign key(DeptNum) references Department(DeptNum));
```

```sql
create table CompanyWork(
    SSN int Not Null,
    DeptNum int Not Null,
    ProjNum  int Not Null,
    ProjName varchar(50),
    primary key (SSN,DeptNum,ProjNum,ProjName),
    foreign key(SSN) references Employee(SSN),
    foreign key(DeptNum) references Department(DeptNum),
    foreign key(ProjNum) references Project(ProjNum),
    foreign key(ProjName) references Project(ProjName));
```

Inserting records and checking the values in tables:

Employee table

```
INSERT INTO `Employee` (`SSN`, `DOB`, `Name`, `FName`, `MInit`,
`LName`, `Address`, `EmployeeType`) VALUES (111111111, '1996-09-09',
'Neetha Ravva', 'Neetha', NULL, 'Ravva', 'Green landing dr', '0'),
(222222222, '1996-12-12', 'Ashritha Dasari', 'Ashritha', NULL,
'Dasari', 'GreenLanding Dr,Carry, NC', '0'),('333333333', '1996-08-08',
'Ankitha Chavan', 'Ankitha', NULL, 'Chavan', 'PL dr, Apex, NC.', '1'),
('444444444', '1996-03-03', 'Banu Mullapudi', 'Banu', NULL,
'Mullapudi', 'GreenLanding Dr,Carry, NC', '1'), ('555555555', '1997-07-
07', 'Naga lakshmi', 'Naga', NULL, 'Lakshmi', 'Brickyard, Greensboro,
NC.', '1');
```

```
INSERT INTO `Employee` (`SSN`, `DOB`, `Name`, `FName`, `MInit`, `LName`, `Address`, `EmployeeType`) VALUES
(111111112, 1998-08-08, 'Naga karthick', 'Naga', NULL, 'Karthick', 'Green landing dr', 0),
(111111114, 1996-12-12, 'Aruna kumari', 'Aruna', NULL, 'Kumari', 'Brickyard, Apex,NC', 0),
(111111116, 1995-05-05, 'Tej Vish', 'Tej', NULL, 'Vish', 'Brickyard, Apex,NC', 1),
(111111117, 1994-04-04, 'Hari Charan', 'Hari', NULL, 'Charan', 'Brickyard, Apex,NC', 1);
```

```
select * from Employee;
```

Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

Show all | Number of rows: 25 Filter rows: Search this table Sort by key: None

Extra options

	SSN	DOB	Name	FName	MInit	LName	Address	EmployeeType
Edit Copy Delete	111111111	1996-09-09	Neetha Ravva	Neetha	NULL	Ravva	Green landing dr	0
Edit Copy Delete	111111112	1998-08-08	Naga karthick	Naga	NULL	Karthick	Green landing dr	0
Edit Copy Delete	111111114	1996-12-12	Aruna kumari	Aruna	NULL	Kumari	Brickyard, Apex,NC	0
Edit Copy Delete	111111116	1995-05-05	Tej Vish	Tej	NULL	Vish	Brickyard, Apex,NC	1
Edit Copy Delete	111111117	1994-04-04	Hari Charan	Hari	NULL	Charan	Brickyard, Apex,NC	1
Edit Copy Delete	222222222	1996-12-12	Ashritha Dasari	Ashritha	NULL	Dasari	GreenLanding Dr,Carry, NC	0
Edit Copy Delete	333333333	1996-08-08	Ankitha Chavan	Ankitha	NULL	Chavan	PL dr, Apex, NC.	1
Edit Copy Delete	444444444	1996-03-03	Banu Mullapudi	Banu	NULL	Mullapudi	GreenLanding Dr,Carry, NC	1
Edit Copy Delete	555555555	1997-07-07	Naga lakshmi	Naga	NULL	Lakshmi	Brickyard, Greensboro, NC.	1

Check all With selected: Edit Copy Delete Export

Table structure for table Employee

Column	Type	Null	Default
SSN	int(11)	No	
DOB	date	No	
Name	varchar(50)	No	

FName	varchar(25)	No	
MInit	varchar(25)	Yes	NULL
LName	varchar(25)	No	
Address	varchar(50)	No	
EmployeeType	tinyint(1)	No	

Data for table Employee

111111111	1996-09-09	Neetha Ravva	Neetha	NULL Ravva	Green landing dr	0
111111112	1998-08-08	Naga karthick	Naga	NULL Karthick	Green landing dr	0
111111114	1996-12-12	Aruna kumari	Aruna	NULL Kumari	Brickyard, Apex,NC	0
111111116	1995-05-05	Tej Vish	Tej	NULL Vish	Brickyard, Apex,NC	1
111111117	1994-04-04	Hari Charan	Hari	NULL Charan	Brickyard, Apex,NC	1
222222222	1996-12-12	Ashritha Dasari	Ashritha	NULL Dasari	GreenLanding Dr,Carry, NC	0
333333333	1996-08-08	Ankitha Chavan	Ankitha	NULL Chavan	PL dr, Apex, NC.	1
444444444	1996-03-03	Banu Mullapudi	Banu	NULL Mullapudi	GreenLanding Dr,Carry, NC	1
555555555	1997-07-07	Naga lakshmi	Naga	NULL Lakshmi	Brickyard, Greensboro, NC.	1

SalariedEmployee Table:

```
INSERT INTO `SalariedEmployee` (`SSN`, `MonthlySalary`)
VALUES (111111111, 8.50), (222222222, 9.50)
```

```
INSERT INTO `SalariedEmployee` (`SSN`, `MonthlySalary`)
VALUES (111111114, 9.50), (111111112, 9.50);
```

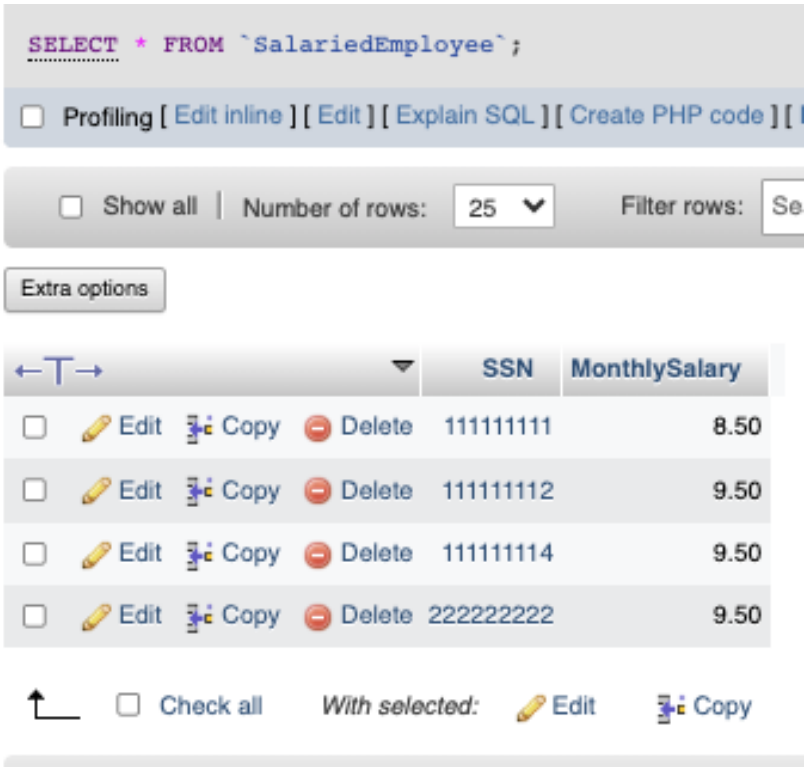


Table structure for table SalariedEmployee

Column	Type	Null	Default
SSN	int(11)	No	
MonthlySalary	decimal(10,2)	No	NULL

Data for table SalariedEmployee

111111111	8.50
111111112	9.50
111111114	9.50
222222222	9.50

HourlyPay Table:

```
INSERT INTO HourlyPay (SSN, HourlyPay)
VALUES (333333333, 8.50),
(444444444, 9.50),
(555555555, 7.50);
```

```
1 INSERT INTO HourlyPay (SSN, HourlyPay)
2 VALUES (111111116, 8.50);
```

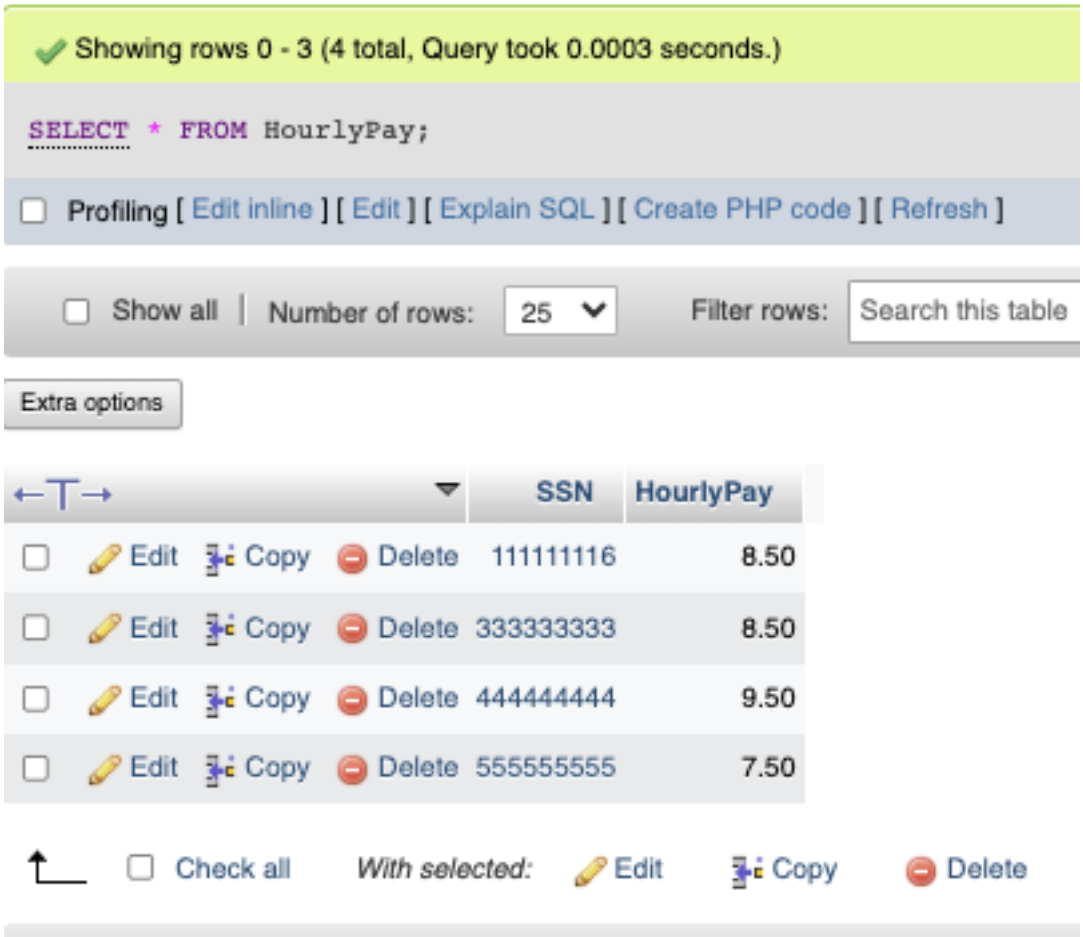


Table structure for table HourlyPay

Column	Type	Null	Default
SSN	int(11)	No	
HourlyPay	decimal(10,2)	No	

Data for table HourlyPay

333333333	8.50
444444444	9.50
555555555	7.50
111111116	8.50

Dependents Table:

```
1 INSERT INTO dependents (SSN, Name, Relationship)
2 VALUES (111111111, 'Vishnu', 'Spouse'),
3 (111111111, 'Binnu', 'Brother'),
4 (333333333, 'Nikhil', 'Spouse'),
5 (111111111, 'Nagulu', 'Parent');
```

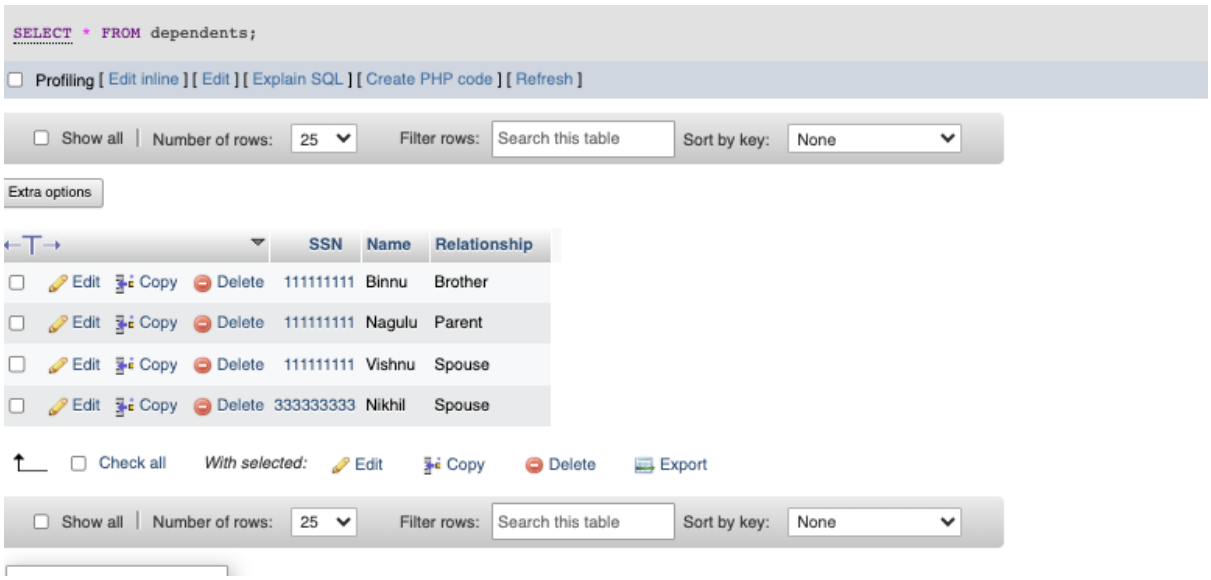


Table structure for table dependents

Column	Type	Null	Default
SSN	int(11)	No	
Name	varchar(25)	No	
Relationship	varchar(25)	Yes	NULL

data for table dependents

111111111	Binnu	Brother
111111111	Nagulu	Parent
111111111	Vishnu	Spouse
333333333	Nikhil	Spouse

Department Table:

```
INSERT INTO Department
(DeptNum, DeptName, NoOfEmployees, ManagerID)
VALUES (1, 'Computer Science', 10, 111111111),
(2, 'Human resources', 5, 111111112),
(3, 'Information technology', 6, 111111114),
(4, 'Electrical engineering', 7, 222222222);
```

```
select * from Department;
```

Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

Show all | Number of rows: 25 Filter rows: Search this table Sort by key: None

Extra options

	DeptNum	DeptName	NoOfEmployees	ManagerID
Edit Copy Delete	1	Computer Science	10	111111111
Edit Copy Delete	2	Human resources	5	111111112
Edit Copy Delete	3	Information technology	6	111111114
Edit Copy Delete	4	Electrical engineering	7	222222222

Table structure for table Department

Column	Type	Null	Default
DeptNum	int(11)	No	
DeptName	varchar(25)	No	
NoOfEmployees	int(11)	No	
ManagerID	int(11)	No	

Data for table Department

1	Computer Science	10	111111111
2	Human resources	5	111111112
3	Information technology	6	111111114
4	Electrical engineering	7	222222222

Location Table;

```
1 INSERT INTO `Location` (`DeptNum`, `Location`)
2 VALUES (1, 'UNC Greensboro'),
3 (1, 'UNC Chapel hill'), (1, 'NCSU'),
4 (1, 'UNC Ashville');
```

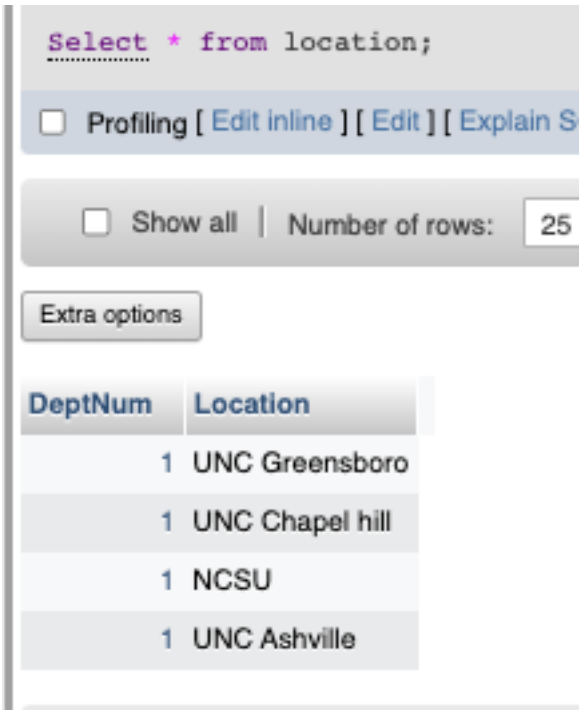


Table structure for table location

Column	Type	Null	Default
DeptNum	int(11)	No	
Location	varchar(25)	No	

Data for table location

1 UNC Greensboro
1 UNC Chapel hill
1 NCSU
1 UNC Ashville

Project table:

```
INSERT INTO `Project`
(`ProjNum`, `ProjName`, `ProjDescription`)
VALUES (1, 'ADBS project 1', 'Drawing the ER Diagram of Company'),
(1, 'ADBS project 2', 'Drawing the Relational schema of project 1'),
(1, 'ADBS project 3', 'Developing the logic in SQL.'),
(2, 'Network analysis ', 'About graph theory.');
```

```
select * from project;
```

Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

Show all | Number of rows: 25 Filter rows: Search this table Sort by key: None

Extra options

	ProjNum	ProjName	ProjDescription
Edit Copy Delete	1	ADBS project 1	Drawing the ER Diagram of Company
Edit Copy Delete	1	ADBS project 2	Drawing the Relational schema of project 1
Edit Copy Delete	1	ADBS project 3	Developing the logic in SQL.
Edit Copy Delete	2	Network analysis	About graph theory.

Table structure for table project

Column	Type	Null	Default
ProjNum	int(11)	No	
ProjName	varchar(50)	No	
ProjDescription	varchar(250)	No	

Data for table project

1	ADBS project 1	Drawing the ER Diagram of Company
1	ADBS project 2	Drawing the Relational schema of project 1
1	ADBS project 3	Developing the logic in SQL.
2	Network analysis	About graph theory.

CompanyWork Table:

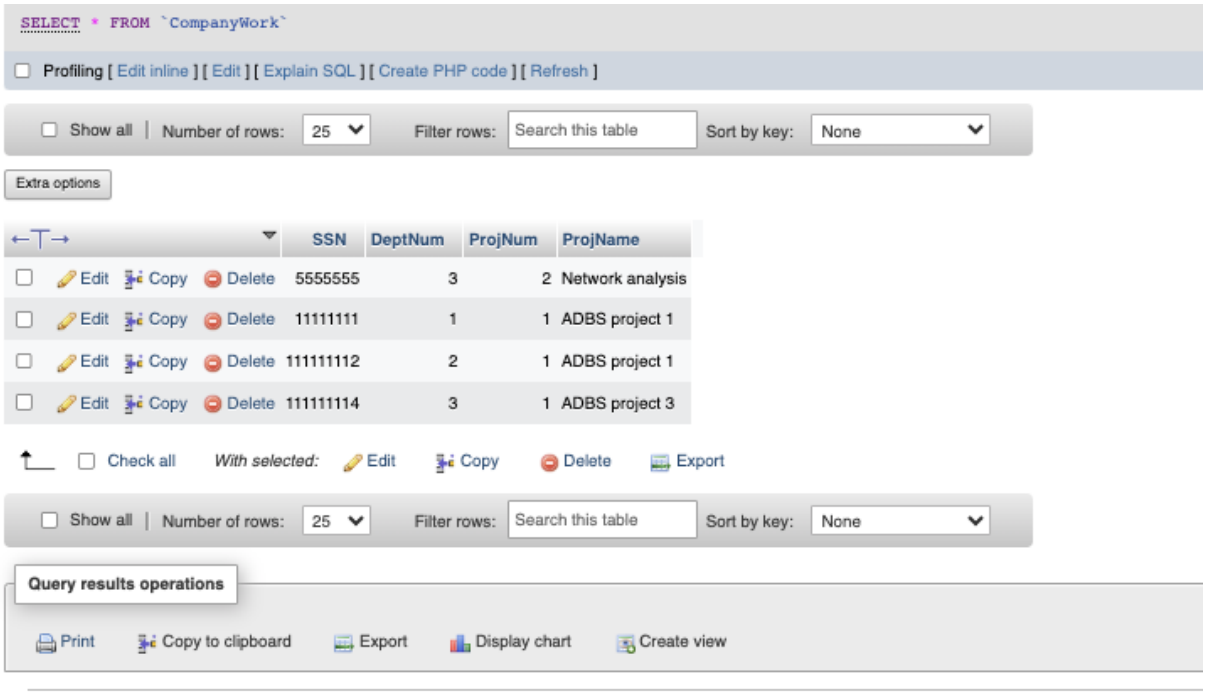


Table structure for table CompanyWork

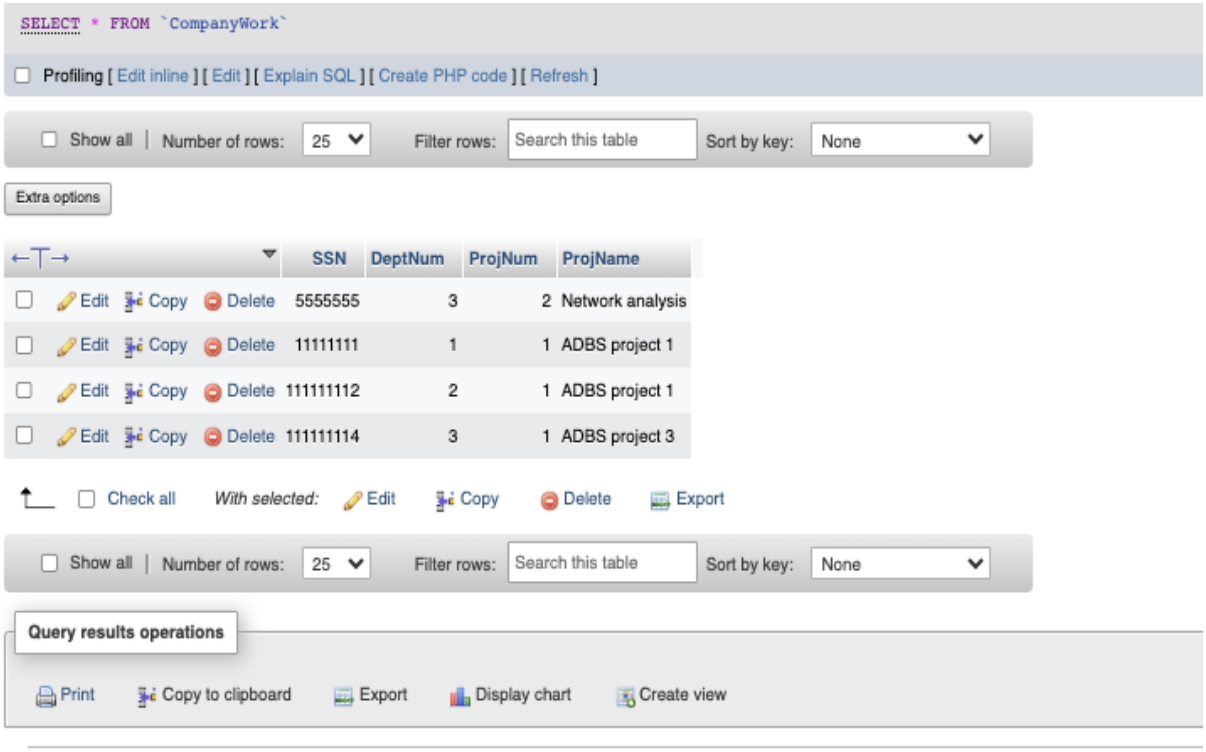
Column	Type	Null	Default
SSN	int(11)	No	
DeptNum	int(11)	No	
ProjNum	int(11)	No	
ProjName	varchar(50)	No	

Data for table CompanyWork

5555555	3	2	Network Analysis
11111111	1	1	ADBS project 1
111111112	2	1	ADBS project 1
111111114	3	1	ADBS project 3

3. Updating records in the CompanyWork table:

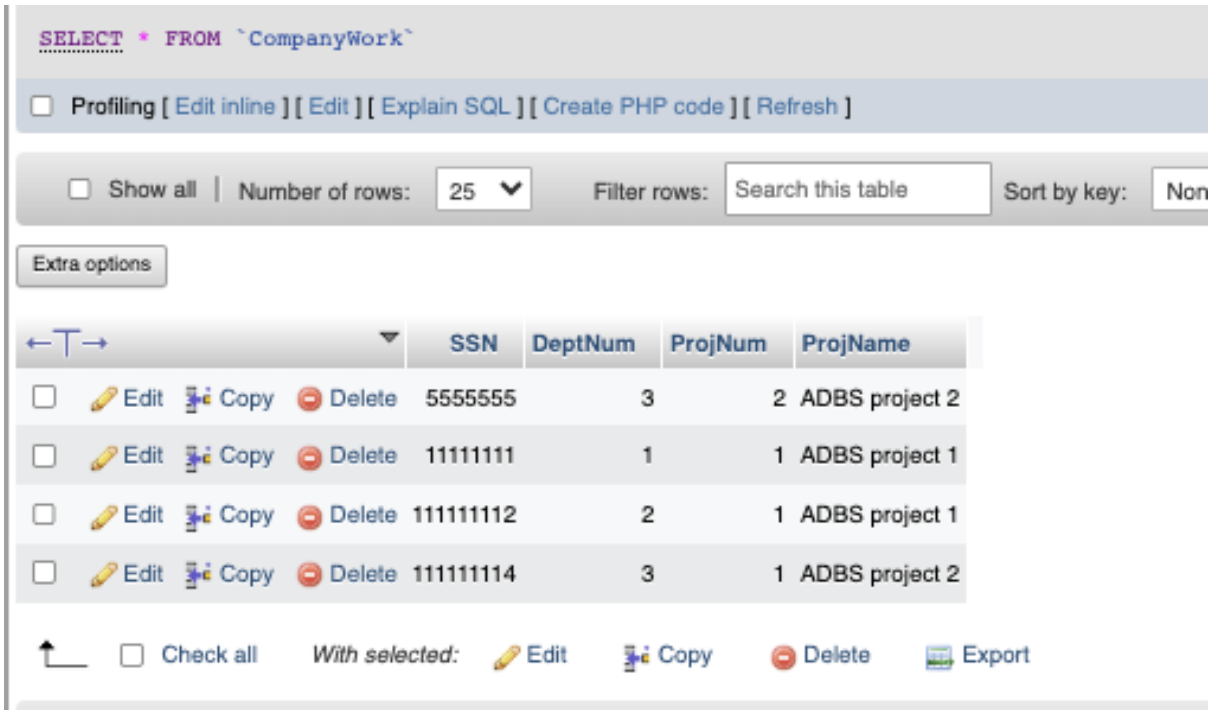
Below are the values of CompanyWork table before updating.



Now I am updating the ProjName column to ‘ADBS project 2’ for department name ‘Information technology’ using subquery.

```
UPDATE CompanyWork as C
  set ProjName = 'ADBS project 2'
   where c.DeptNum IN ( select DeptNum from Department as D where D.DeptName = 'Information technology');
```

Results after updating the records.



4. Writing the queries:

Inner join:

```
1 select  CompanyWork.SSN, Employee.Name, Employee.DOB, CompanyWork.DeptNum
2 from CompanyWork
3 INNER JOIN Employee on CompanyWork.SSN = Employee.SSN;
```

Extra options

SSN	Name	DOB	DeptNum
111111111	Neetha Ravva	1996-09-09	1
111111112	Naga karthick	1998-08-08	2
111111114	Aruna kumari	1996-12-12	3
555555555	Naga lakshmi	1997-07-07	3

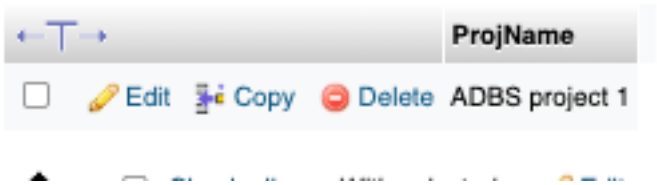
:

```
select   Employee.Name, Employee.DOB, SalariedEmployee.MonthlySalary
from Employee
INNER JOIN SalariedEmployee on Employee.SSN = SalariedEmployee.SSN;
```

Name	DOB	MonthlySalary
Neetha Ravva	1996-09-09	8.50
Naga karthick	1998-08-08	9.50
Aruna kumari	1996-12-12	9.50
Ashritha Dasari	1996-12-12	9.50

Subquery:

```
SELECT ProjName FROM CompanyWork as C
    where c.DeptNum IN (SELECT DeptNum FROM Department as D where D.DeptName = 'Computer science');
```



	ProjName
Edit Copy Delete	ADBS project 1

Group by and having:

```
SELECT count(Location)
FROM Location
group by DeptNum
HAVING DeptNum = 1;
```

count(Location)
4

SET operation:

```
(SELECT name from Employee where SSN = 111111111 AND dob = '1996-09-09')
UNION (SELECT name from Employee where SSN = 111111116 AND dob = '1995-05-05');
```

name
Neetha Ravva
Tej Vish