

SQL project 3

1. Creating the tables:

Run SQL query/queries on database test: 

```
1 create table Employee(  
2     SSN int NOT NULL check (len(SSN)=10),  
3     DOB date NOT NULL,  
4     Name varchar(50) NOT NULL,  
5     FName varchar(25) NOT NULL,  
6     MInit varchar(25),  
7     LName varchar(25) NOT NULL,  
8     Address varchar(50) NOT NULL,  
9     EmployeeType boolean NOT NULL,  
10    PRIMARY key (SSN));
```

```
1 CREATE table Department(  
2     DeptNum int NOT NULL,  
3     DeptName varchar(25) NOT Null,  
4     NoOfEmployees int NOT Null,  
5     ManagerID int,  
6     PRIMARY KEY (DeptNum),  
7     UNIQUE (DeptName),  
8     FOREIGN Key(ManagerID) REFERENCES SalariedEmployee(SSN));  
9
```

```
1 CREATE table Project(  
2     ProjNum int NOT NULL,  
3     ProjName varchar(50) NOT NULL,  
4     ProjDescription varchar(250),  
5     CONSTRAINT PK_Project PRIMARY KEY (ProjNum,ProjName));
```

```
1 create table dependents(  
2 SSN int NOT NULL,  
3 Name varchar(25) NOT NULL,  
4 Relationship varchar(25),  
5 constraint PK_Dependents primary key (SSN, Name),  
5 FOREIGN key (SSN) REFERENCES employee(SSN));
```

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

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

```
1 create table Location(  
2     DeptNum int Not Null,  
3     Location varchar(25) NOT Null,  
4     primary key (DeptNum, Location),  
5     foreign key(DeptNum) references Department(DeptNum));
```

```
1 create table CompanyWork(  
2     SSN int Not Null,  
3     DeptNum int Not Null,  
4     ProjNum int Not Null,  
5     ProjName varchar(50),  
6     primary key (SSN, DeptNum, ProjNum, ProjName),  
7     foreign key(SSN) references Employee(SSN),  
8     foreign key(DeptNum) references Department(DeptNum),  
9     foreign key(ProjNum) references Project(ProjNum),  
10    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');
```

```
1 INSERT INTO `Employee` (`SSN`, `DOB`, `Name`, `FName`, `MInit`, `LName`, `Address`, `EmployeeType`) VALUES
2 (111111112, 1998-08-08, 'Naga karthick', 'Naga', NULL, 'Karthick', 'Green landing dr', 0),
3 (111111114, 1996-12-12, 'Aruna kumari', 'Aruna', NULL, 'Kumari', 'Brickyard, Apex,NC', 0),
4 (111111116, 1995-05-05, 'Tej Vish', 'Tej', NULL, 'Vish', 'Brickyard, Apex,NC', 1),
5 (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
<div><input type="checkbox"/> Edit Copy Delete</div>	111111111	1996-09-09	Neetha Ravva	Neetha	NULL	Ravva	Green landing dr	0
<div><input type="checkbox"/> Edit Copy Delete</div>	111111112	1998-08-08	Naga karthick	Naga	NULL	Karthick	Green landing dr	0
<div><input type="checkbox"/> Edit Copy Delete</div>	111111114	1996-12-12	Aruna kumari	Aruna	NULL	Kumari	Brickyard, Apex,NC	0
<div><input type="checkbox"/> Edit Copy Delete</div>	111111116	1995-05-05	Tej Vish	Tej	NULL	Vish	Brickyard, Apex,NC	1
<div><input type="checkbox"/> Edit Copy Delete</div>	111111117	1994-04-04	Hari Charan	Hari	NULL	Charan	Brickyard, Apex,NC	1
<div><input type="checkbox"/> Edit Copy Delete</div>	222222222	1996-12-12	Ashritha Dasari	Ashritha	NULL	Dasari	GreenLanding Dr,Carry, NC	0
<div><input type="checkbox"/> Edit Copy Delete</div>	333333333	1996-08-08	Ankitha Chavan	Ankitha	NULL	Chavan	PL dr, Apex, NC.	1
<div><input type="checkbox"/> Edit Copy Delete</div>	444444444	1996-03-03	Banu Mullapudi	Banu	NULL	Mullapudi	GreenLanding Dr,Carry, NC	1
<div><input type="checkbox"/> Edit Copy Delete</div>	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:

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

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

`SELECT * FROM `SalariedEmployee`;`

☐ Profiling [[Edit inline](#)] [[Edit](#)] [[Explain SQL](#)] [[Create PHP code](#)] [[...](#)]

☐ Show all | Number of rows: Filter rows:

Extra options

				SSN	MonthlySalary
<input type="checkbox"/>	Edit	Copy	Delete	111111111	8.50
<input type="checkbox"/>	Edit	Copy	Delete	111111112	9.50
<input type="checkbox"/>	Edit	Copy	Delete	111111114	9.50
<input type="checkbox"/>	Edit	Copy	Delete	222222222	9.50

☐ Check all With selected: Edit Copy

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);
```














✓ Showing rows 0 - 3 (4 total, Query took 0.0003 seconds.)

```
SELECT * FROM HourlyPay;
```

☐ Profiling [[Edit inline](#)] [[Edit](#)] [[Explain SQL](#)] [[Create PHP code](#)] [[Refresh](#)]

☐ Show all | Number of rows: Filter rows:

Extra options

				SSN	HourlyPay
<input type="checkbox"/>	 Edit	 Copy	 Delete	111111116	8.50
<input type="checkbox"/>	 Edit	 Copy	 Delete	333333333	8.50
<input type="checkbox"/>	 Edit	 Copy	 Delete	444444444	9.50
<input type="checkbox"/>	 Edit	 Copy	 Delete	555555555	7.50

 ☐ Check all With selected:  Edit  Copy  Delete

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');
```

`SELECT * FROM dependents;`

☐ 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	Name	Relationship
<input type="checkbox"/> Edit Copy Delete	111111111	Binnu	Brother
<input type="checkbox"/> Edit Copy Delete	111111111	Nagulu	Parent
<input type="checkbox"/> Edit Copy Delete	111111111	Vishnu	Spouse
<input type="checkbox"/> Edit Copy Delete	333333333	Nikhil	Spouse

☐ Check all | With selected: Edit Copy Delete Export

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

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:

```

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

```

```
select * from Department;
```

☐ Profiling [[Edit inline](#)] [[Edit](#)] [[Explain SQL](#)] [[Create PHP code](#)] [[Refresh](#)]

☐ Show all | Number of rows: Filter rows: Sort by key:

Extra options













<div><div><div></div><div></div><div></div></div></div>				DeptNum	DeptName	NoOfEmployees	ManagerID
<input type="checkbox"/>		 Edit	 Delete	1	Computer Science	10	111111111
<input type="checkbox"/>		 Edit	 Delete	2	Human resources	5	111111112
<input type="checkbox"/>		 Edit	 Delete	3	Information technology	6	111111114
<input type="checkbox"/>		 Edit	 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');
```

```
Select * from location;
```

☐ Profiling [[Edit inline](#)] [[Edit](#)] [[Explain S](#)

☐ Show all | Number of rows:

Extra options

DeptNum	Location
1	UNC Greensboro
1	UNC Chapel hill
1	NCSU
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 Asheville

Project table:

```
1 INSERT INTO `Project`
2 (`ProjNum`, `ProjName`, `ProjDescription`)
3 VALUES (1, 'ADBS project 1', 'Drawing the ER Diagram of Company'),
4 (1, 'ADBS project 2', 'Drawing the Relational schema of project 1'),
5 (1, 'ADBS project 3', 'Developing the logic in SQL.'),
6 (2, 'Network analysis ', 'About graph theory.');
```

```
select * from project;
```

☐ Profiling [[Edit inline](#)] [[Edit](#)] [[Explain SQL](#)] [[Create PHP code](#)] [[Refresh](#)]

☐ Show all | Number of rows: Filter rows: Sort by key:

Extra options













<div><div><div><div></div><div></div><div></div></div><div></div></div></div>				ProjNum	ProjName	ProjDescription
<input type="checkbox"/>	 Edit	 Copy	 Delete	1	ADBS project 1	Drawing the ER Diagram of Company
<input type="checkbox"/>	 Edit	 Copy	 Delete	1	ADBS project 2	Drawing the Relational schema of project 1
<input type="checkbox"/>	 Edit	 Copy	 Delete	1	ADBS project 3	Developing the logic in SQL.
<input type="checkbox"/>	 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:

SELECT * FROM `CompanyWork`			
<input type="checkbox"/> Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]			
<input type="checkbox"/> Show all Number of rows: 25 Filter rows: Search this table Sort by key: None			
Extra options			
	SSN	DeptNum	ProjNum ProjName
<input type="checkbox"/>	5555555	3	2 Network analysis
<input type="checkbox"/>	11111111	1	1 ADBS project 1
<input type="checkbox"/>	111111112	2	1 ADBS project 1
<input type="checkbox"/>	111111114	3	1 ADBS project 3
<input type="checkbox"/> Check all With selected: Edit Copy Delete Export			
<input type="checkbox"/> Show all Number of rows: 25 Filter rows: Search this table Sort by key: None			
Query results operations			
Print Copy to clipboard Export Display chart Create view			

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.

The screenshot displays a database management interface for the 'CompanyWork' table. At the top, a SQL query is shown: `SELECT * FROM `CompanyWork``. Below the query, there are options for 'Profiling', 'Edit inline', 'Edit', 'Explain SQL', 'Create PHP code', and 'Refresh'. A control bar includes a 'Show all' checkbox, 'Number of rows' set to 25, a 'Filter rows' search box, and a 'Sort by key' dropdown set to 'None'. An 'Extra options' button is also present. The main table has columns: SSN, DeptNum, ProjNum, and ProjName. It contains four rows of data: (5555555, 3, 2, Network analysis), (11111111, 1, 1, ADBS project 1), (111111112, 2, 1, ADBS project 1), and (111111114, 3, 1, ADBS project 3). Each row has interactive icons for Edit, Copy, and Delete. Below the table, there are checkboxes for 'Check all' and 'With selected', followed by 'Edit', 'Copy', 'Delete', and 'Export' buttons. A second control bar is identical to the first. At the bottom, a 'Query results operations' section contains buttons for 'Print', 'Copy to clipboard', 'Export', 'Display chart', and 'Create view'.

SSN	DeptNum	ProjNum	ProjName
5555555	3	2	Network analysis
11111111	1	1	ADBS project 1
111111112	2	1	ADBS project 1
111111114	3	1	ADBS project 3

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.

SELECT * FROM `CompanyWork`

☐ Profiling [[Edit inline](#)] [[Edit](#)] [[Explain SQL](#)] [[Create PHP code](#)] [[Refresh](#)]

☐ Show all | Number of rows: Filter rows: Sort by key:

Extra options

				SSN	DeptNum	ProjNum	ProjName
<input type="checkbox"/>	Edit	Copy	Delete	5555555	3	2	ADBS project 2
<input type="checkbox"/>	Edit	Copy	Delete	11111111	1	1	ADBS project 1
<input type="checkbox"/>	Edit	Copy	Delete	111111112	2	1	ADBS project 1
<input type="checkbox"/>	Edit	Copy	Delete	111111114	3	1	ADBS project 2

☐ Check all With selected: Edit Copy Delete Export

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
ADBS project 1

Group by and having:

```
1 SELECT count(Location)
2 FROM Location
3 group by DeptNum
4 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

