

## **IST 659 Lab 6**

### **SQL III using MS SQL Server**

#### **Problem Description**

For this lab you are required to work in SQL Server and create the appropriate tables, columns, and constraints for the following model.

#### **Instruction:**

##### **Business Case (this is the same case you have worked on for labs 4 and 5)**

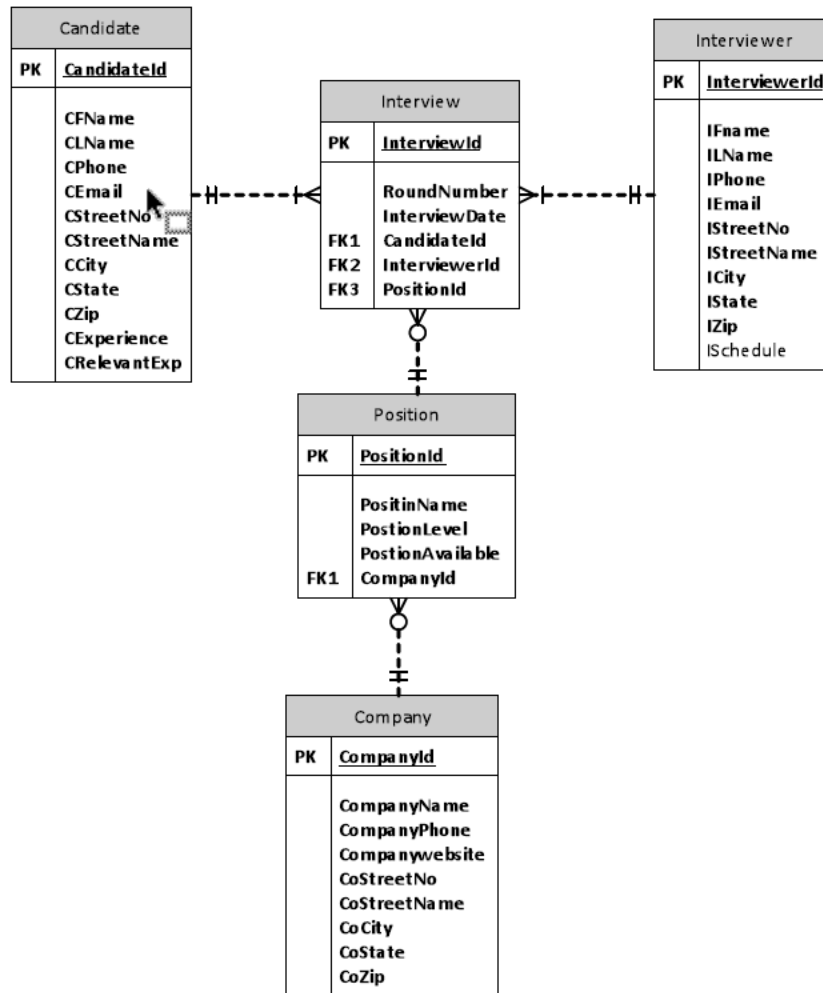
Syracuse University Career Services wants to keep a track of all interviews that take place. They want to keep track of all the companies, the potential candidates, interviewer, positions available at companies etc. Sometimes the Career Services needs to contact the companies for verification or other inquiries.

We need to build a database that would assist the career services in recording this information. In this database system, each company and candidate will have their own profiles which include their names and contact information such as phone numbers, postal addresses. Candidates would need to provide information about their primary Experience domain, and relevant experience.

Interviewers may or may not provide their office hour information. The schedule or office hour information should be a text describing when the interviewer's office is open, e.g. 9am-5pm Monday – Thursday.

An interviewer can conduct one or multiple interviews of candidates. A candidate can have one or more interviews. Each interview must have an interview date and round number along with information about the Candidate (CandidateId) and Interviewer (InterviewerId). The database should also maintain information about the positions a company is looking to hire for. Details about position level, and position name should also be given. Information about whether the position is still available or not should also be stored in the database (this field will be either “yes” or “no”).

In this lab we have already created the ERD model for the career services database (see below).



## Lab 6 instruction

Imagine you are hired to design a new database to support this platform. In lab 4 you have created and populated the tables. In lab 5 you have revised the tables and written queries to answer easy data questions. In this lab you are going to write complex queries which pull data out of multiple tables. Please write SQL statements to finish the following tasks:

### 1. Join table queries:

- Find all candidates who were interviewed for second round (Round Number = 2) Internship position. Show each candidate's details which includes candidate ID, Candidate name, phone number, candidate experience, and relevant experience.

```

/* Find all candidates who were interviewed for second round (Round Number = 2)
Internship position. Show each candidate's details which includes candidate ID,
Candidate name, phone number, candidate experience,
and relevant experience.*/
  
```

```

select distinct c.CandidateID, concat(c.CFName, ' ', c.CLName) AS 'Candidate
Name', c.CPhone, c.CExperience
from candidates c
inner join Interviews i
on i.CandidateID = c.CandidateID
WHERE i.RoundNumber = 2;

```

	CandidateID	Candidate Name	CPhone	CExperience
1	1	Nathan, Kerr	315-555-5555	Database, Business Analysis

- b. Find all positions whose interviews were conducted by "Amy May"(interviewer).  
Show the PositionId, position level, position name and position availability.

```

/* Find all positions whose interviews were conducted by "Amy May"(interviewer).
Show the PositionId, position level, position name and position availability.*/

```

```

select p.positionID, p.positionLevel, p.positionName, p.positionAvailable
from positions p
inner join Interviews i on p.positionID = i.positionID
inner join Interviewers iw on i.InterviewerID = iw.InterviewerID
where iw.IFName = 'Amy' and iw.ILName = 'May';

```

	positionID	positionLevel	positionName	positionAvailable
1	2	Entry	Business Analyst	yes
2	1	Internship	Technology Analyst	yes

- c. Find all interviewers who conducted one or more second-round interviews. Show the Interviewer details like Interviewer ID, Interviewer phone, Interviewer email, Interviewer address and schedule.

```

/* Find all interviewers who conducted one or more second-round interviews.
Show the Interviewer details like Interviewer ID, Interviewer phone, Interviewer
email, Interviewer address and schedule.
*/

```

```

select iw.InterviewerID, concat(iw.IFName, ' ', iw.MiddleInitial, ' ', iw.ILName)
as 'Name', iw.IPhone, iw.IEmail, concat(iw.IStreetNo, ' ', iw.IStreetName, ' ',
iw.ICity, ' ', iw.IState) as 'Address', iw.ISchedule
from Interviewers iw, Interviews i
where iw.InterviewerID = i.InterviewerID and i.roundNumber = 2;

```

	InterviewerID	Name	IPhone	IEmail	Address	ISchedule
1	1	Dorothy, Paige	315-555-0126	dorothy.paige@syr.edu	137 Summer Ave, Syracuse, NY	9am-5pm Monday-Friday
2	2	Amy, May	315-5555	amy.may@syr.edu	777 Ackeman Ave, Syracuse, NY	NULL

- d. Find all candidates who interviewed for the position "Advisory Consultant". Show Candidate details and interview details.

```

/* Find all candidates who interviewed for the position "Advisory Consultant".
Show Candidate details and interview details.
*/

```

```

*/
select c.CandidateID, concat(c.CFName, ', ', c.CLName) AS 'Candidate Name',
c.CPhone, c.CExperience
from candidates c, Positions p, Interviews i
where i.CandidateID = c.CandidateID and i.positionID = p.positionID and
p.PositionName = 'Advisory Consultant';

```

	CandidateID	Candidate Name	CPhone	CExperience
1	5	Lily, Tumer	315-555-9999	Database, Business Analysis, Developer, Analyst

- e. Find positions for all the interviews that were conducted on September 28th, 2013.  
Show the PositionId, position level, position name and position availability.

```

/* Find positions for all the interviews that were conducted on September 28th,
2013.
Show the PositionId, position level, position name and position availability.
*/

```

```

select p.positionID, p.positionLevel, p.positionName, p.positionAvailable
from Positions p, Interviews i
where i.positionID = p.positionID and i.InterviewDate = '2013-09-28';

```

	positionID	positionLevel	positionName	positionAvailable
1	1	Internship	Technology Analyst	yes
2	2	Entry	Business Analyst	yes

- f. Find all positions for which no interviews were conducted, and delete them from the Position table.

```

/*
Find all positions for which no interviews were conducted, and delete them from the
Position table.
*/

```

```

select positionID, positionName, positionLevel, positionAvailable
from Positions
where positionID not in (select distinct positionID from interviews);

```

```

delete from positions where positionID = '3';
delete from positions where positionID = '4';
delete from positions where positionID = '6';

```



	positionID	positionName	positionLevel	positionAvailable
1	3	Database Analyst	Executive	yes
2	4	Risk Manager	Executive	no
3	6	Project Manager	Managerial	no

```

select * from positions;

```

	PositionID	PositionName	PositionLevel	PositionAvailable	CompanyID
1	1	Technology Analyst	Internship	yes	1
2	2	Business Analyst	Entry	yes	1
3	5	Advisory Consultant	Staff	yes	4

- g. Find the interviewer who conducted the interview for candidate "Heather Cameron".  
Update this interviewer's phone number to 315-400-5000.

```
/*
Find the interviewer who conducted the interview for candidate "Heather Cameron".
Update this interviewer's phone number to 315-400-5000
*/
```

```
select iw.InterviewerID, concat(iw.IFName, ', ', iw.ILName) as 'Name', iw.IPhone,
iw.IEmail
from Interviewers iw, Interviews i, candidates c
where iw.InterviewerID = i.InterviewerID and c.candidateID = i.candidateID and
c.CFName = 'Heather' and c.CLName = 'Cameron';
```

	InterviewerID	Name	IPhone	IEmail
1	3	Charles, Duncan	315-444-5555	charles.duncan@syr.edu

```
UPDATE Interviewers SET IPhone = '315-400-5000' where InterviewerID = '3';
```

```
select * from Interviewers where InterviewerID = '3';
```

	InterviewerID	IFName	ILName	IPhone	IEmail	IStreetNo	IStreetName	ICity	IState	IZip	ISchedule	MiddleInitial
1	3	Charles	Duncan	315-400-5000	charles.duncan@syr.edu	345	Lancaster Ave	Syracuse	NY	13210	8am-6pm Monday-Saturday	NULL

## Submission Instruction

Please submit your report in one Word file to BlackBoard under the appropriate Lab in the Labs section.

Name your file in this format "IST659SectionNumber-Lab6-Lastname-Firstname.doc".

Remember to add comments to your SQL statements to explain the purpose of the code blocks. The lab report should follow the template in lab 4 solutions. After each question, copy and paste your SQL statement, followed by the screenshot to show that your SQL statement has been successfully executed. Both SQL statement and the result should be visible in the screenshot. Include Screen shots of the SQL Server Management Studio with your username which is there at the bottom right hand corner.

## **Due Date**

Labs are due by the start of class of the following week. Please refer to the syllabus if there is any confusion. The reason that this is done is so that I can review the solution in class while still giving you the most time possible.

## **Grading Rubric:**

This lab evaluates students' understanding of some key concepts: entities, attributes, primary keys, cardinality of relationships, foreign key constraints. The grading is based on the assessment whether the student has grasped these key concepts.

5 points – all concepts correctly understood, all answers correct

4.5 points – confusion about a key concept, sometimes

right 4 points – one key concept obviously misunderstood

3.5 points – confusion about a couple concepts, sometimes

right 3 points – two key concepts obviously misunderstood

2 points or below – basically don't understand these concepts



# Comment Summary

Page 3

1. Join Position table to check for Internship level position
  - i. -.3

Page 4

2. Write a query to delete these positions instead of writing manual delete statements
  - ii. -.2

Page 5

3. use subquery
  - iii. -.2

Page 6

4. 4.3