

BCIS 5420 Project Part II - Group 6

Used SQL Workspace name- yos0003

User ID- yos0003

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Team members:

Harish Nagamalla - hn0707

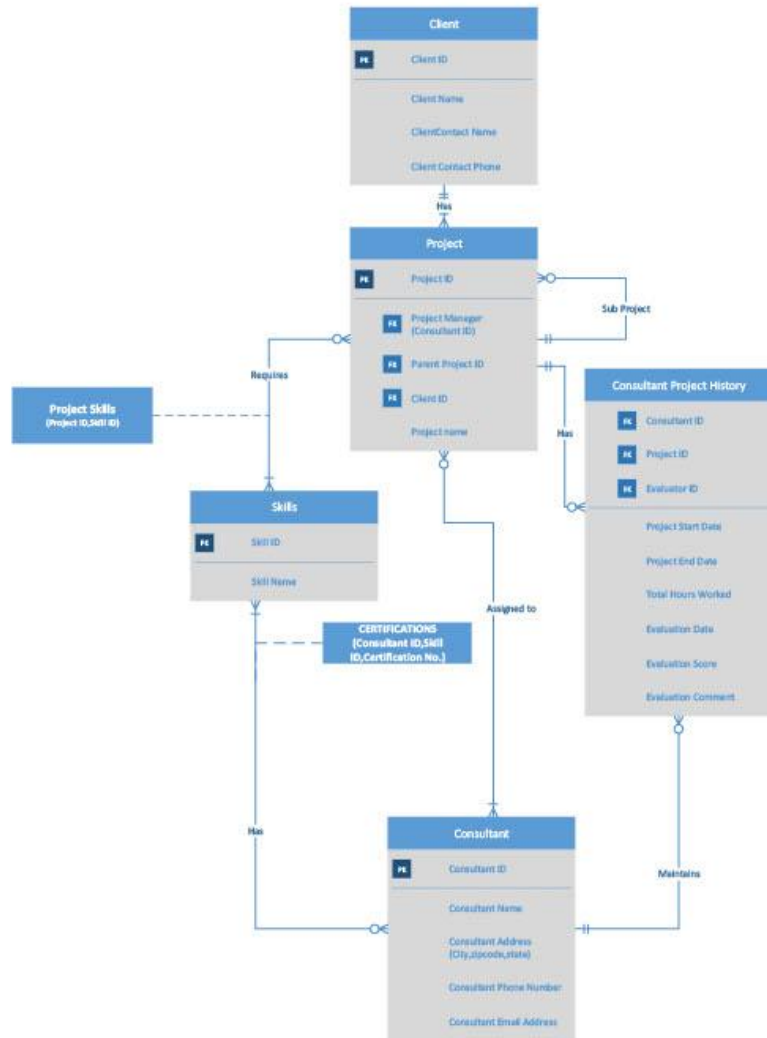
Nithya Bharathi Babu - nb0501

Praveen Gadiparthi - pg0416

Yusuf Saadu - yos0003

Preeti Chaudhry - pc0429

Project Part 1 :Conceptual Design
ERD for SR Consulting Firm



Assumptions

1. Evaluator ID is the consultant ID of the project manager.

Project Part 1 Conceptual Design

Table Creation Query

```
Create table Client(  
    ClientID numeric not null,  
    Client_Name Varchar(100),  
    Client_Contact_Name Varchar(100),  
    Client_contact_phone numeric,  
    CONSTRAINT ClientIDD PRIMARY KEY (ClientID),  
);
```

```
--select * from Client
```

```
Create table Consultant(  
    Consultant_ID numeric not null,  
    Consultant_Name Varchar(100),  
    Consultant_Address Varchar(100),  
    Consultant_City Varchar(100),  
    Consultant_Phone_Number numeric(38),  
    Consultant_Email_Address Varchar(100),  
    CONSTRAINT Consultant_ID PRIMARY KEY (Consultant_ID),  
);
```

```
--select*from Consultant
```

```
Create table Skills(  
    Skill_ID numeric not null,  
    Skill_Name Varchar(100),  
    CONSTRAINT Skill_iID PRIMARY KEY (Skill_ID),  
);
```

```
--select * from Skills
```

```
create table Project(  
    project_ID numeric not null,  
    Project_Manager numeric not null,  
    Parent_Project_ID numeric not null,  
    ClientID numeric not null,  
    Project_name varchar(100),  
    CONSTRAINT project_ID PRIMARY KEY (project_ID),
```

```
    CONSTRAINT Project_Manager_ID FOREIGN KEY (Project_Manager) REFERENCES  
    Consultant (Consultant_ID),  
    CONSTRAINT Parent_Project_ID FOREIGN KEY (project_ID) REFERENCES  
    Project(project_ID),  
    CONSTRAINT ClientID FOREIGN KEY (ClientID) REFERENCES Client(ClientID));
```

```
--select * from Project
Create table Project_skills(
    project_ID numeric not null,
    Skill_ID numeric not null,
    CONSTRAINT pproject_ID FOREIGN KEY (project_ID) REFERENCES Project (project_ID),
    CONSTRAINT Sskill_ID FOREIGN KEY (Skill_ID) REFERENCES Skills (Skill_ID),
);
```

```
--select * from Project_skills
```

```
create table Consultant_Project_History(
    Consultant_ID numeric not null,
    project_ID numeric not null,
    Evaluator_ID numeric not null,
    Project_Start_Date date not null,
    Project_End_Date date not null,
    Total_Hours_Worked numeric not null,
    Evaluation_Date date not null,
    Evaluation_score numeric not null,
    Evaluation_Comment Varchar(100) not null,
```

```
CONSTRAINT Consultant_ID FOREIGN KEY (Consultant_ID) REFERENCES Consultant
(Consultant_ID),
CONSTRAINT project_IID FOREIGN KEY (project_ID) REFERENCES Project(project_ID),
CONSTRAINT Evaluator_ID FOREIGN KEY (Evaluator_ID) REFERENCES
Consultant(Consultant_ID));
```

```
--select * from Consultant_Project_History
```

```
Create table CERTIFICATIONS(
    Consultant_ID numeric not null,
    Skill_ID numeric not null,
    Certification_NO numeric not null,
    CONSTRAINT Consultant_IDD FOREIGN KEY (Consultant_ID) REFERENCES Consultant
(Consultant_ID),
    CONSTRAINT Sskill_IID FOREIGN KEY (Skill_ID) REFERENCES Skills (Skill_ID),
);
```

```
--select * from CERTIFICATIONS
```

Data Insertion Query

```
INSERT INTO Client (ClientID, Client_Name,Client_Contact_Name,Client_contact_phone)
VALUES (9876, 'sanjay varma','sans',9876543084),
      (9875,'santhosh rao','santh',9876543089),
      (9874,'peter paul','peter.r',9837639374),
      (9873,'Ranjith raj','rona',9833848927),
      (9872,'rithvik sans','fburg',8376298872),
      (9871,'rohan sharma','rams',8378284728);
```

```
INSERT INTO Consultant (Consultant_ID,
Consultant_Name,Consultant_Address,Consultant_City,Consultant_Phone_Number,Consultant
_Email_Address)
VALUES (100, 'Mark Meyers','avenue
a,arlington,TX','Arlington',7876543084,'athesh@gmail.com'),
      (200,'rajesh singh','avenue
b,irving,TX','Irving',7876543089,'rajesh@gmail.com'),
      (300,'ramesh ji','avenue
c,denton,TX','Denton',7837639374,'ramesh@gmail.com'),
      (400,'ramya behra','avenue d,frisco,TX','Frisco',7833848927,
'ramya@gmail.com'),
      (500,'madhav venu','avenue
e,plano,TX','Plano',7376298872,'madhav@gmail.com'),
      (600,'hemanth shekavath','avenue
f,allen,TX','Allen',7544237845,'hemanth@gmail.com');
```

```
INSERT INTO Skills (Skill_ID, Skill_Name)
VALUES (1, 'python developer'),
      (2,'java developer'),
      (3,'dot net developer'),
      (4,'sql administrator'),
      (5,'java testing'),
      (6,'business analyst');
```

```
INSERT INTO Project (project_ID,Project_Manager,Parent_Project_ID,ClientID,Project_name)
VALUES (3276,100,3276,9876, 'construction project'),
      (3275,200,3275,9875,'book store project'),
      (3274,300,3274,9874,'online sales'),
      (3273,400,3273,9873,'accidents tracking'),
      (3272,500,3272,9872,'adidas shoes sales'),
      (3271,600,3271,9871,'manufacturing of batteries');
```

```
INSERT INTO Project_skills (project_ID,Skill_ID)
VALUES (3276,1),
      (3275,2),
      (3274,3),
      (3273,4),
      (3272,5),
      (3271,6);
```

```

INSERT INTO Consultant_Project_History
(Consultant_ID,project_ID,Evaluator_ID,Project_Start_Date,Project_End_Date,Total_Hours_Worked,Evaluation_Date,Evaluation_score,Evaluation_Comment)
VALUES (100,3276,100,'08/10/2021','02/21/2022', 1080,'03/11/2022',98,'NA'),
(200,3275,200,'08/23/2021','02/17/2022',1987,'03/18/2022',97,'NA'),
(300,3274,300,'08/12/2021','02/18/2022',1765,'03/13/2022',95,'NA'),
(400,3273,400,'08/18/2021','02/19/2022',1956,'03/16/2022',99,'NA'),
(500,3272,500,'08/19/2021','02/21/2022',1011,'03/19/2022',93,'NA'),
(600,3271,600,'08/28/2021','02/11/2022',1101,'03/22/2022',96,'NA');

INSERT INTO CERTIFICATIONS (Consultant_ID,Skill_ID,Certification_NO)
VALUES (100,1,9824635),
(200,2,9763482),
(300,3,9754645),
(400,4,7827638),
(500,5,3256754),
(600,6,5673924);

```

```

select * from Client
select*from Consultant
select * from Skills
select * from Project
select * from Project_skills
select * from Consultant_Project_History
select * from CERTIFICATIONS

```

Scenario Queries

5a. Select Distinct City from Consultant order by City asc

Results		Messages	
	City		
1	Allen		
2	Arlington		
3	Denton		
4	Frisco		
5	Irving		
6	Plano		

5b. Select Consultant_ID, Skill_ID, Certification_NO from CERTIFICATIONS where
Skill_ID= 1 or Skill_ID= 2 or Skill_ID= 3

Results		Messages	
	Consultant_ID	Skill_ID	Certification_NO
1	100	1	9824635
2	200	2	9763482
3	300	3	9754645

5c. Select Consultant_name from Consultant where substr(Consultant_name, len(Consultant_name), 1) in ('a','e','i','o','u')

Results		Messages	
	Consultant_name		
1	ramesh ji		
2	ramya behra		
3	madhav venu		

5d. Select substr(Consultant_Name, CHARINDEX(' ', Consultant_name) + 1, LEN(Consultant_name) - CHARINDEX(' ', Consultant_name)) AS Last_Name, Project_name from Consultant
 JOIN Consultant_Project_History
 ON Consultant_Project_History.Consultant_ID = Consultant.Consultant_ID
 JOIN Project
 ON Project.Project_ID = Consultant_Project_History.Project_ID
 order by Last_Name desc

Results		Messages	
	Last_Name	Project_name	
1	venu	adidas shoes sales	
2	singh	book store project	
3	shekavath	manufacturing of batteries	
4	Meyers	construction project	
5	ji	online sales	
6	behra	accidents tracking	

5e. Select Consultant_Name from Consultant

JOIN Consultant_Project_History ON Consultant_Project_History.Consultant_ID
= Consultant.Consultant_ID where Project_ID=(Select Project_ID from
Consultant_Project_History where Consultant_ID=100) except select
Consultant_Name from Consultant where Consultant_ID=100

Results	Messages
Consultant_Name	

5f. Select Project_ID, Total_hours_Worked from Consultant_Project_History where
Total_hours_Worked > 50 and Total_hours_Worked < 100

Results	Messages
Project_ID	Total_hours_Worked

5g. Select * from Client

full outer join Project on Project.ClientID=Client.ClientID

Results		Messages							
	ClientID	Client_Name	Client_Contact_Name	Client_contact_phone	project_ID	Project_Manager	Parent_Project_ID	ClientID	Project_name
1	9871	rohan sharma	rams	8378284728	3271	600	3271	9871	manufacturing of batteries
2	9872	rithvik sans	fburg	8376298872	3272	500	3272	9872	adidas shoes sales
3	9873	Ranjith raj	rona	9833848927	3273	400	3273	9873	accidents tracking
4	9874	peter paul	peter.r	9837639374	3274	300	3274	9874	online sales
5	9875	santhosh rao	santh	9876543089	3275	200	3275	9875	book store project
6	9876	sanjay varma	sans	9876543084	3276	100	3276	9876	construction project

5h. Select Consultant_ID, project_id, Sum(Total_hours_worked) as Hours_Worked
from Consultant_Project_history
Group by Consultant_ID, project_id
Having Sum(Total_hours_worked) > 1500

Results		Messages	
	Consultant_ID	project_id	Hours_Worked
1	600	3271	1101
2	500	3272	1011
3	400	3273	1956
4	300	3274	1765
5	200	3275	1987
6	100	3276	1080

5i. Select Consultant_Name from Consultant

JOIN Consultant_Project_History ON Consultant_Project_History.Consultant_ID

= Consultant.Consultant_ID where Consultant.Consultant_ID

not in (Select Consultant_ID from Consultant_Project_History)

Results		Messages	
	Consultant_Name		

5j. Select distinct Certification_NO from CERTIFICATIONS

Results		Messages	
	Certification_NO		
1	3256754		
2	5673924		
3	7827638		
4	9754645		
5	9763482		
6	9824635		