Team 16

Guoyi Lyu

Haoyuan He

Lindsey Flewelling

Michael Stangret

Sharon Chin

Suqi Cui

Client: Eye on U

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Executive Summary

Our team was tasked with developing a database for Eye on U. The goal was to enhance their current system of keeping track of client records, by making data retrieval more organized and efficient. We began our project by developing a team charter that outlined guidelines that our team would follow. Included in our charter were expectations for the team. This would aid in keeping the team on track and resolving any conflicts that might arise.

After receiving the design requirements for the database, we developed the initial E/R Diagram with the following tables: Client, CTypeCorporation, CTypePerson, Property, Visit, VisitAddFee, Employee, EmployeeServiceVisit, Service, and ServiceCompletionLog. The schema modeled our primary and foreign key constraints. We then implemented our database design and began to populate our database with data. To ensure that the database would function as intended, we tested for entity integrity by checking for null values in the primary key attributes. We also tested referential integrity by joining tables that had a primary key, foreign key relationship.

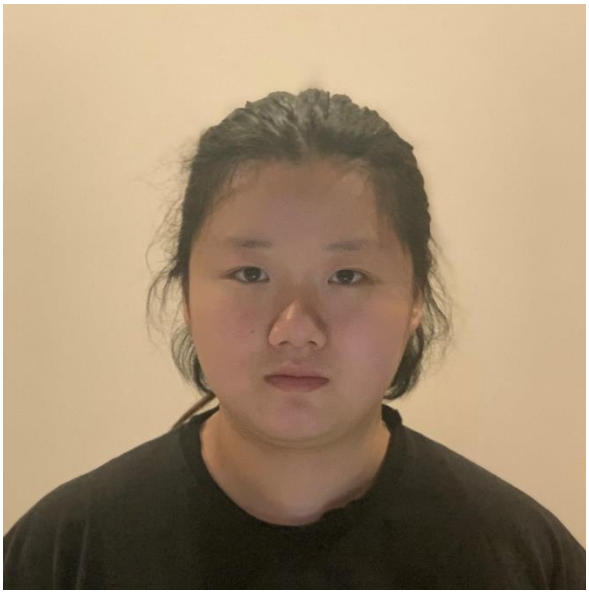
Once we were confident the design worked properly, we wrote more advanced queries using group by, and nested queries, as well as implementing views. These demonstrate the resourcefulness of our database. To further enhance the database design we created a trigger, index, and procedure. Our trigger would automatically assign an employee to a new visit request who has the required specialization. We added an index to the Employee table to reduce the time it takes to query employee data. Lastly, our procedure would update a visit's end date upon service completion.

Team Member Introduction

Haoyuan He

Haoyuan He ("Hank"), is a Junior at Arizona State University's W.P. Carey School of Business. He is from China, and when working with his western colleagues, likes to be called "Hank." Haoyuan speaks both Chinese and English, which makes him perfect for projects involving multi-national companies. Clients of ProSolver benefit from Hank's "Follow-through" conation. In addition to his knowledge of SQL, he brings order, focus, structure and efficiency to every project. In his free time, Haoyuan loves travel and adventure, he even enjoys skydiving.

Suqi Cui



Suqi Cui is a student at Arizona State University in W.P Carey School of Business. Her conation type is quick starter. Suqi comes from Nanjing, China. She used to be a sales associate in a real estate company. She is an innovative and persistent person. She has experience using excel, python, and SQL from previous classes. She likes animals and owns a pet named doo doo ball.

Lindsey Flewelling

Lindsey Flewelling is a student at Arizona State University W.P. Carey School of Business. In addition to being a student, Lindsey is an accomplished small business owner of Flewelling Distributions and successful Project Manager of Process Improvements. Through her extensive work experience and natural conation type of “Follow Through”, Lindsey excels at carefully articulating a plan and leading others to the successful execution of said plan. Lindsey is not all about work however, married for 19 years and a loving mother to her 16-year-old daughter. In her free time, Lindsey enjoys camping, dancing, and playing softball.

Michael Stangret

Michael has the conation type of Implementer and facilitator. In terms of his work ethic his is driven, reliable, and persistent. His strengths are working hands on, problem solving, and cooperation. In terms of skill sets, he has experience with coding Java, Python, and some SQL. This is something that will be helpful in terms of our project since he has a good background with database. He also has interned at RoadRunner Sports as a Sales Associate, so has prior intern experience.

Sharon Chin

Sharon is a student at Arizona State. Not only that, she has previously interned in supply chain work in Taiwan and has also worked as an interpreter for the Arizona State University Foundation. In the team, she plays the role of Fact Finder. Based on her work idea of planning and management and easygoing willingness to help others, I think she can complete the task better. She is very good at programming with Python. She moved to Arizona during her freshman year and has three lovely pets. In her free time, she likes music and other arts.

Guoyi Lyu

Guoyi is a sophomore at Arizona State University. In our group, he plays the role of fact finder. He is persistent, innovative and hard-working. In the past, he had an internship in a bank last summer. He is skillful as well as ethical in his career. He is willing to help others in need. Also, he is talented making surveys and forms. Guoyi is a master of Excel, therefore he is equipped with numerous Excel spreadsheet knowledge. Other than that, he is a great swimmer and traveler. He enjoys spending time with his friends.

Team Charter

Team Membership Agreement for CIS 365

Team ProSolvers, No.16 Charter/Code of Ethics

We, the ProSolvers team, having signed the attached Team Membership Agreement, have developed the following code of ethics to manage our project team activities. This Team Charter/Code specifies the minimum expectations of appropriate behavior for each team member and will be used to evaluate any potential problems.

If, in the future, we determine that the rules specified in this document should be modified or supplemented, we may produce a revised version. At that time, the revised version will become effective, and the older version will be null.

Code of Conduct: As a project team, we will:

- Be professional representatives of our firm, our team; and our client.
- Be respectful to each member's time, ideas, and work.
- Each individual will be responsible for their own tasks.

Participation: We will:

- Attend all scheduled meetings.
- Submit assigned tasks in accordance with the deliverables schedule agreed upon during team meetings.
- Ensure the highest quality output, that meets the standards and instructions for each milestone.
- Contribute feedback to team members in a constructive and respectful manner.

Communication: We will:

- Ensure that all written and verbal communication is professional, clear and respectful.
- Communicate and work to resolve concerns or conflicts that may arise before they become a problem.
- Ask teammates for help when needed, before our it becomes a problem.

Problem Solving: We will:

- If a teammate is struggling with a task, we will work together to provide assistance.
- Work together to resolve and conflicts.
- Work together to accommodate each other's schedules.
- Be respectful of one another's other's perspective.

Meeting Guidelines: We will:

- During the last meeting of each milestone, the team will elect a person to serve as Meeting Chair for the next milestone.
- Meeting Chair is responsible for scheduling and coordinating team meetings; they will draft the agendas prior to meetings; will lead the meetings; will update the agendas with items covered during the meetings; and will ensure that all agendas meet formatting requirements consistent with the rest of the milestones' agendas.
- Arrive to meetings on time and participate during meetings.
- Arrive to meeting prepared and with any deliverables due.
- As much as possible, the team agrees to schedule meetings for Fridays from 3:00PM-5:00PM and Sundays between 2:00PM and 5:00PM.
- Team will hold telephonic and video meetings as needed.
- Non-Chair members will communicate any requests for agenda topics, to the Chair, prior to the next scheduled meeting.

We, the undersigned, accept the conditions of team membership for CIS 365. The specific conditions of team membership are recorded in the Team Charter which we have developed and attached.

The Charter reflects the minimum level of performance that is expected of any group member. If a group member fails to meet this minimum level, they may be subject to the following consequences: (these must be real consequences that can be enforced).

1. First occurrence will result in a verbal warning from the team.
2. Second occurrence will result in a team meeting where written notice will be given to the offender. During the meeting, the team will work to aid the offender in meeting their contractual obligations.
3. Third offense will result in a report to Dr. Huang.
4. If at any point the team feels that an offender's failure to comply might result in incomplete task assignments, the team may decide to reassign the tasks to ensure completion.

Note: Consequences must not include “ganging up” on team members to cause physical/emotional harm, nor by discussing the peer evaluations to allocate a final score. The evaluations are confidential and using them to motivate your team is unethical.

Project Team Name: ProSolvers

Lindsey Flewelling

Sharon Chin

Guoyi Lyu

Suqi Chi

Haoyuan He

Michael Stangret

Team Profile

Team Strengths

- Python
- Java
- SQL
- Microsoft Office
- Mandarin

Available Technology

- Printer
- Scanner

Meeting Times

Fridays 3:00PM-5:00PM

Sundays 2:00PM-5:00PM

Team Roles

Lindsey Flewelling – Planning team objectives and delegating tasks
Haoyuan He – Work on PowerPoints and Google drive sheets
Guoyi Lyu – Review complete work, Organize and improve
Michael Stangret – Provide support and assistance to teammates
Sharon Chin – Conducts research and overviews assignments
Suqi Cui – Works on SQL assignments and makes sure everyone is on track

Client Introduction and Requirements

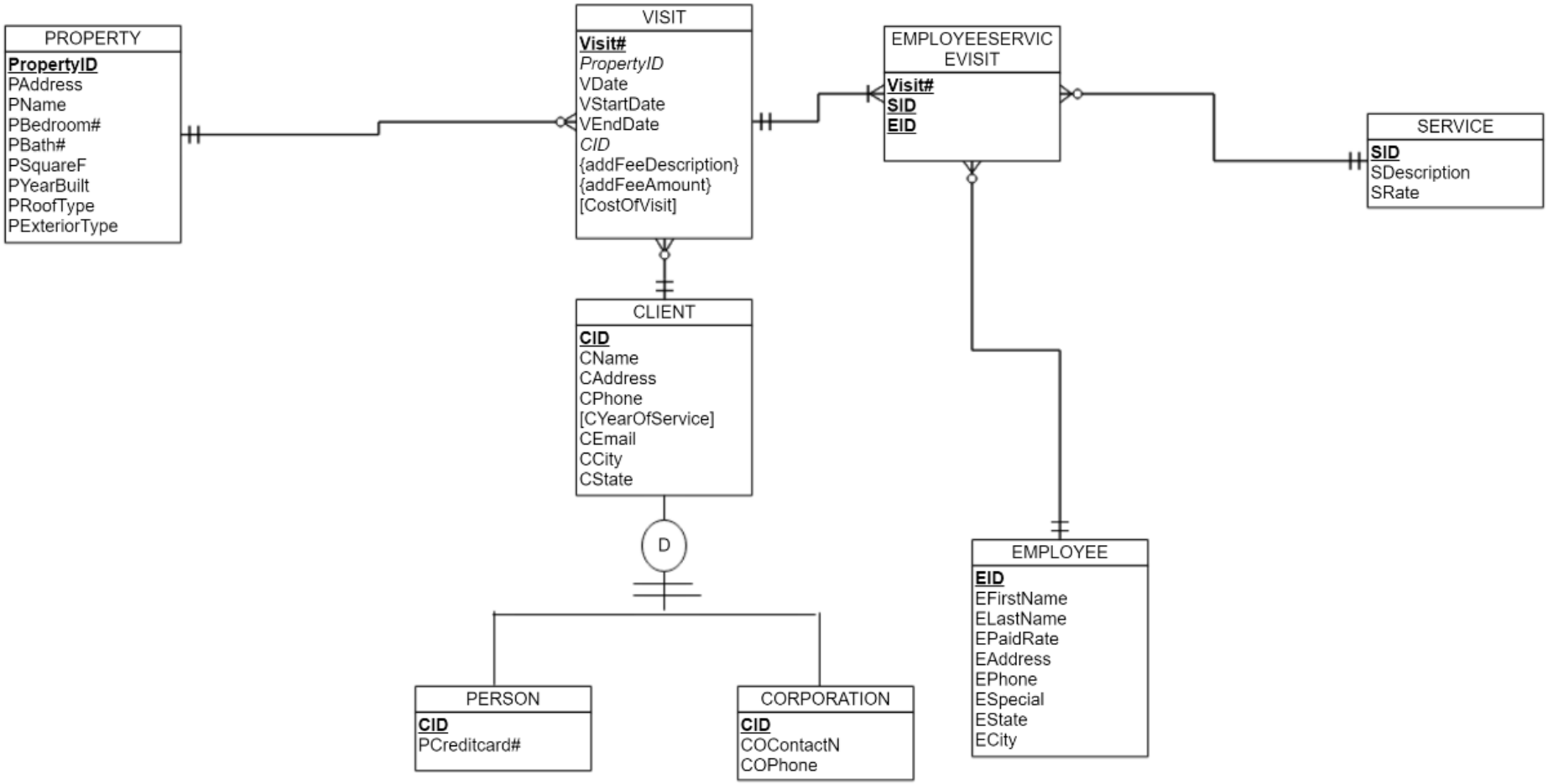
Eye on U is a home watch company located in Palm Beach, Florida, that assists in managing property investments of their clients. Eye on U provides a myriad of services such as inspections repairs, maintenance, etc. to ensure the state of the client's rental properties. In addition to providing these services, their main business objective is to provide their clients with trained professionals to perform the desired service to ensure quality property maintenance.

In terms of our database, the following information is needed Property Information (square footage, number of bedrooms, interior, and exterior material) along with the services each employee provides for their clients. The service information includes the description and rate assigned to each service that is being provided, and the employee is only allowed on specialization recorded at a time. Our Clients may have one or more property and can be either an individual or a corporation if the client is an individual; the credit card number must be accessible for repairs. When an employee performs a service, the property will be visited and logged, including the property, service, date of the visit start date of the work to be done, the end date of the work completed, the owner, the employee performing the service, and total cost of the visit. In addition, each respective visit must be recorded individually (i.e. if a service requires multiple visits). As Eye on U's database development team, their current database management system consisted of store recipe cards in Plastic containers, and they didn't have a system allowing them to retrieve their client's information efficiently and effectively. ProSolvers' main objective was to accommodate and develop a database to optimize their database efficiency. Listed below were the deliverables requested by our client (Eye on U).

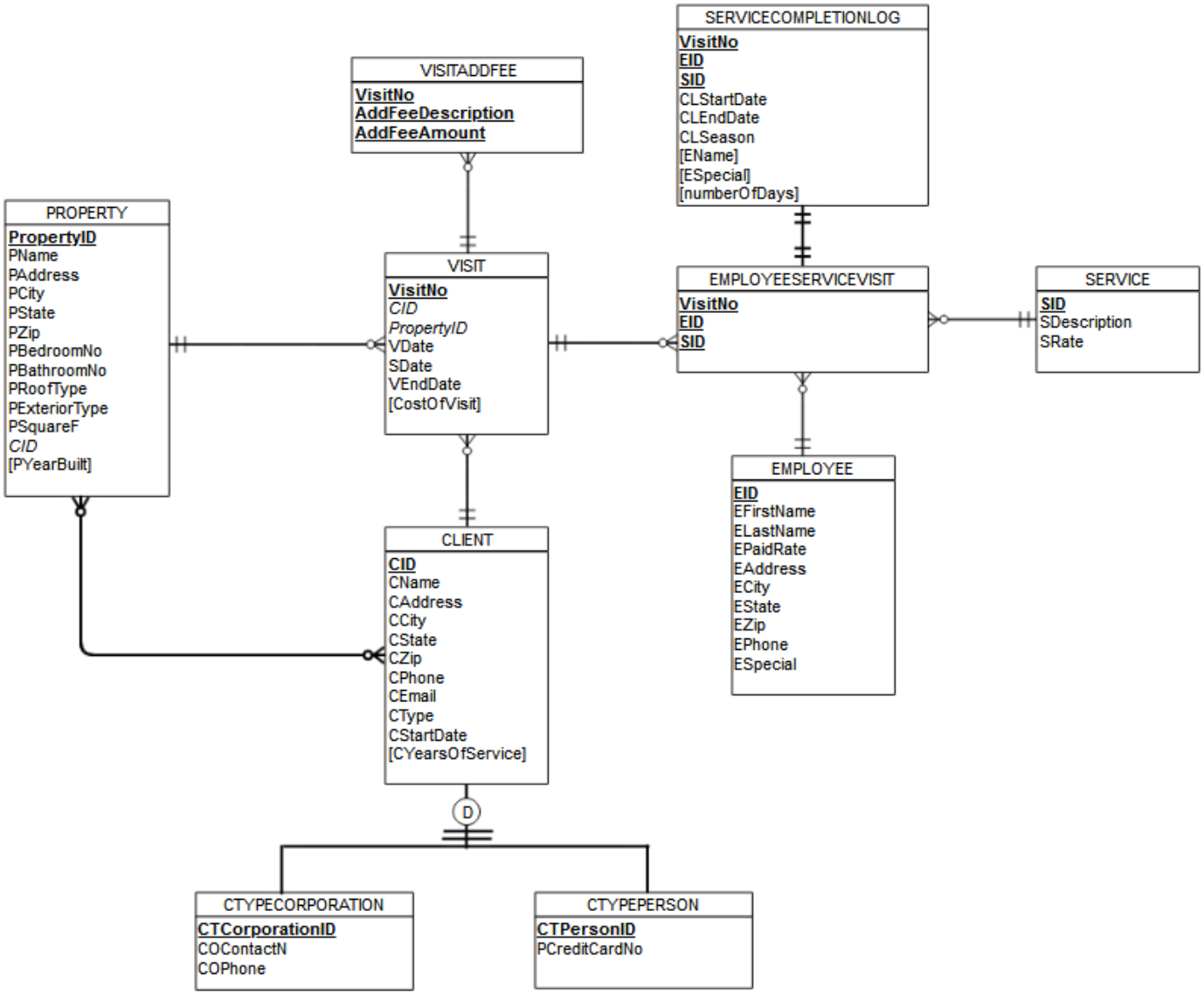
Expected deliverables as requested by Eye on U include:

1. State that has the most owners.
2. Number/list of owners in each state.
3. Total number of visits for each client for each season.
4. Total charge for each visit where there are multiple services performed.
5. A list of clients who have ordered pest control.
6. The service taking the most time/number of employees.
7. Employees residing in the same state as a client.
8. List of employees performing the most services.
9. Total revenue received last year.
10. Total damaged caused by the last hurricane.1
11. Employees making more than the average rate for their job specification.
12. Clients requiring multiple visits for a single service.

Initial E/R Diagram



Revised E/R Diagram



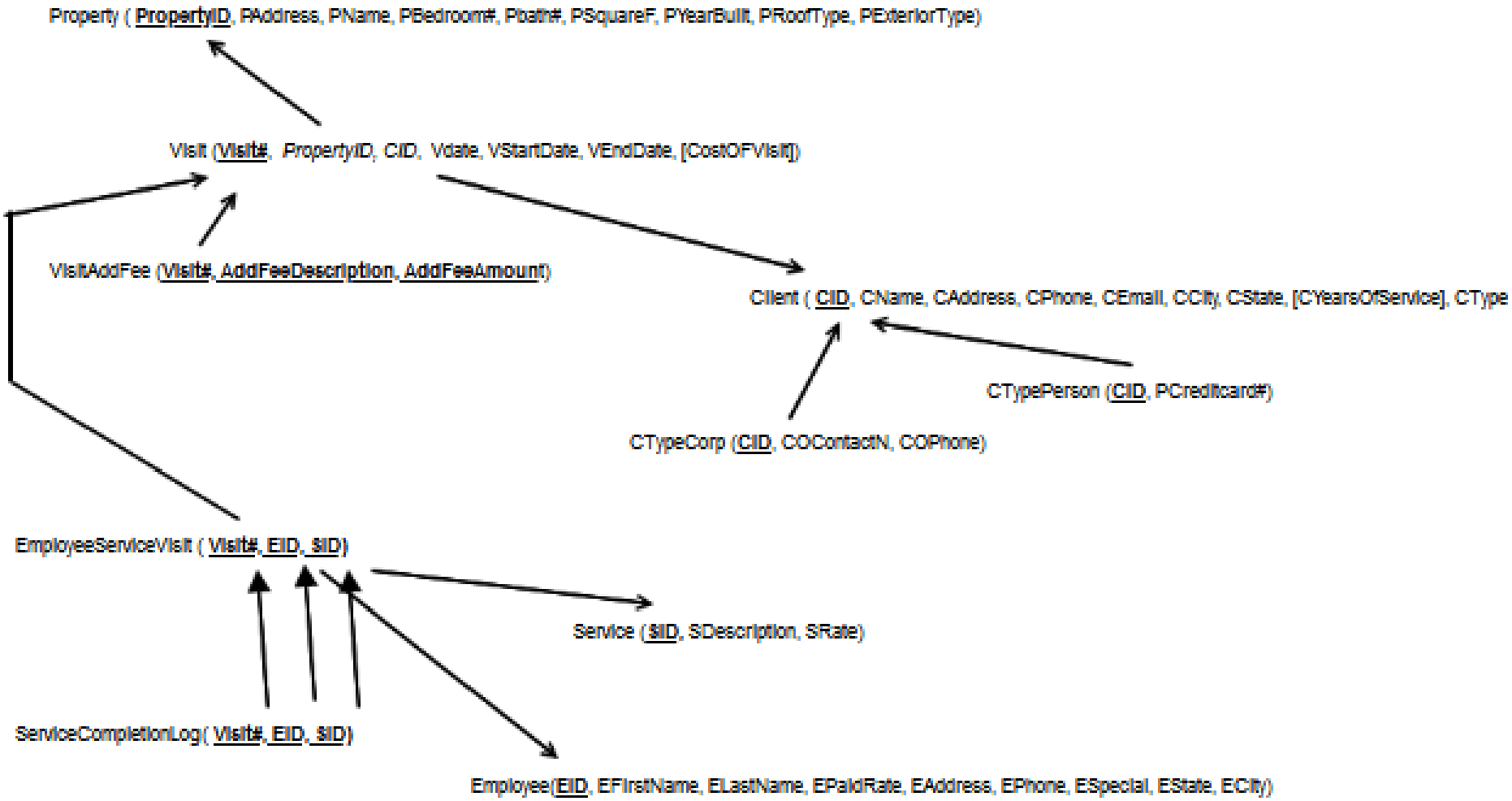
Data Dictionary

ENTITY	**Attribute**	**Definition**
VISIT	VisitDate	Date that an employee conducts a visit
VISIT	**EmployeeID**	12-digit number uniquely identifying an employee
VISIT	**ServiceID**	12-digit number uniquely identifying a service requested by the client
VISIT	VisitID	12-digit number uniquely identifying a visit
VISIT	StartDate	Date that identifies when a service starts
VISIT	EndDate	Date that identifies when a service ends
VISIT	**ClientID**	12-digit number that identifies a client
VISIT	CostOfVisit	Balance owed to the company for a visit. Includes total balance owed from the total of maintenance, service and replacement fees; Starts at $0.00. 2 decimal places
VISIT	Address	Character data, max-length 30. Identifies visit address.
VISIT	AddFeeDescription	Character data, max-length 40
VISIT	AddFeeAmount	numeric, max- length 20
VISIT	PropertyID	12-digit number uniquely identifying a property
CLIENT	ClientID	12-digit number uniquely identifying a client
CLIENT	Name	Character data, max-length 30. Contains clients first and last name
CLIENT	Address	Character data, max-length 30. Contains street address and zip code
CLIENT	City	Character data, max-length 30. Contains clients city.

CLIENT	YearOfService	Derived numeric, calculated from date client first started services and today's date
CLIENT	Email	Character data, max-length 30.
CLIENT	State	Character data, max-length 15.
CLIENT	Phone	10-digit number for clients phone number
PROPERTY	**PropertyID**	12-digit number uniquely identifying a property
PROPERTY	Name	Character data, max-length 30
PROPERTY	Address	Character data, max-length 30. Contains street address, state, zip code
PROPERTY	Bedroom	Numeric data depicting number of bedrooms in a property.
PROPERTY	Bathroom	Numeric data depicting number of bathrooms in a property.
PROPERTY	RoofType	Character data, max length 15. Describes property roof type.
PROPERTY	ExteriorType	Character data, max length 15. Describes property exterior type.
PROPERTY	SquareF	Numeric data. Describes total square footage of a property
PROPERTY	YearBuilt	4-digit number depicting year a property was built
EMPLOYEE	EmployeeID	12-digit number uniquely identifying an employee
EMPLOYEE	FirstName	Character data, max-length 30
EMPLOYEE	LastName	Character data, max-length 30
EMPLOYEE	PaidRate	The rate that an employee is paid at. 2 decimal places
EMPLOYEE	Address	Character data, max-length 30. Contains street address, state, zip code
EMPLOYEE	Phone	10-digit number for employee phone number

EMPLOYEE	Special	Character data, max-length 30. Contains description of employee's specialization.
EMPLOYEE	State	Character data, max-length 15.
EMPLOYEE	City	Character data, max-length 15.
PERSON	ClientID	12-digit number that identifies a client
PERSON	CreditCard	Character data, max-length 16. Contains a client's credit card information
CORPORATION	ClientID	12-digit number that identifies a client
CORPORATION	ContactN	Character data, max-length 20. Contains contact name for a corporation.
CORPORATION	Phone	10-digit number for corporation phone number
EMPLOYEESERVICEVISIT	VisitID	12-digit number uniquely identifying a visit
EMPLOYEESERVICEVISIT	ServiceID	12-digit number uniquely identifying a service requested by the client
EMPLOYEESERVICEVISIT	EmployeeID	12-digit number uniquely identifying an employee
SERVICE	**ServiceID**	12-digit number uniquely identifying a service requested by the client
SERVICE	Description	Character data, max length 60. Provides description of services done for a client.
SERVICE	Rate	Balance owed to the company for services provided; Starts at $0.00. 2 decimal places

Schema


Property (PropertyID, PAddress, PName, PBedroom#, Pbath#, PSquareF, PYearBuilt, PRoofType, PExteriorType)
Visit (Visit#, PropertyID, CID, Vdate, VStartDate, VEndDate, [CostOFVisit])
VisitAddFee (Visit#, AddFeeDescription, AddFeeAmount)
Client (CID, CName, CAddress, CPhone, CEmail, CCity, CState, [CYearsOfService], CType
CTypePerson (CID, PCreditcard#)
CTypeCorp (CID, COContactN, COPhone)
EmployeeServiceVisit (Visit#, EID, SID)
Service (SID, SDescription, SRate)
ServiceCompletionLog(Visit#, EID, SID)
Employee(EID, EFirstName, ELastName, EPaidRate, EAddress, EPhone, ESpecial, EState, ECity)

Database Tables

SQLQuery1.sql - aca...SUAD\lfflewel (62))*

```sql
/* PROPERTY TABLE*/

Select *
    From Property;
```

150 %

Results | Messages

	PropertyID	PName	PAddress	PCity	PState	PZip	PBedroomNo	PBathroomNo	PRoofType	PExteriorType	PSquareF	PYearBuilt	CID
1	110668642690	Aurora Heights	397 Wagon St. Lebanon	Palm Beach	FL	33411	3	2	Tile	Brick	1240	2003	354085050542
2	110963644282	Frux	7734 Griffin Ave.	Palm Beach	FL	33412	2	1	Slate	Brick	851	2001	630455395535
3	111701198556	NULL	362 Colonial Rd	Palm Beach	FL	33411	4	2	Solar	Wood	1200	2001	559576298989
4	111899721992	The Oracle	9655 Kingston Lane	Palm Beach	FL	33412	2	2	Solar	Stone	900	2009	500235062152
5	112009157934	La Grande Maison	824 Sky Way Pne	Palm Beach	FL	33412	3	2	Shingle	Wood	1403	2004	354279768015
6	112520538605	FloridaCalibre	4924 Pine Street Roanoke	Palm Beach	FL	33412	4	4	Shingle	Brick	2420	2014	337941345118
7	112801684917	Temple Palace	7895 East White Road	Palm Beach	FL	33411	3	2	Slate	Wood	1400	2013	356633117549
8	113456788989	Envision Hills	2070 Reston Cir	Palm Beach	FL	33411	2	2	Green Roof	Wood	1800	2009	357949593026
9	114110153592	Niyama	8935 Okeechobee Rd	Palm Beach	FL	33412	3	3	Tile	Wood	1840	2012	560222557009
10	114456785945	NULL	36 Lancaster Ave.Deltona	Palm Beach	FL	33412	5	2	Tile	Stone	2452	2014	356399900918
11	114654577224	NULL	656 Birch Hill Ave.	Palm Beach	FL	33411	5	3	Tile	Wood	2400	2002	353453080593
12	114907263829	Greenwood Estate	6611 Lytle Ct	Palm Beach	FL	33412	3	2	Shingle	Brick	1540	2002	491732531713
13	114942263294	Floridaverse	7642 Foster Court	Palm Beach	FL	33412	2	1	Green Roof	Wood	900	2009	560223116918
14	115201831281	NULL	324 Bunker Ranch Rd	Palm Beach	FL	33412	5	3	Slate	Wood	2214	2011	553026708434
15	115369762538	BeachWay	956 Manchester Drive	Palm Beach	FL	33411	3	2	Slate	Wood	1800	2012	358260108799
16	115619751617	NULL	7276 Walt Whitman Lane	Palm Beach	FL	33411	5	3	Shingle	Stucco	2800	2002	354409237289
17	116506187506	MiniPalais	8826 Wendy Ln SWest ...	Palm Beach	FL	33411	3	2	Tile	Wood	1540	2014	353868970222
18	116590827911	FloridaBackPack	711 Forest Club Dr	Palm Beach	FL	33411	2	1	Slate	Wood	851	2012	352966942563
19	117470165907	Fiostrict	46 N. Valley View St.	Palm Beach	FL	33411	3	2	Slate	Stucco	1400	2000	357169932973
20	117917310741	NULL	10342 Fox Trail Rd S	Palm Beach	FL	33411	5	2	Slate	Stone	2421	2002	432408784716
21	118306051619	Florida Estate	8935 Okeechobee Rd	Palm Beach	FL	33412	5	3	Shingle	Brick	31547	2012	637120442929
22	118398541900	Homes Pointe	9014 Sussex Ave.	Palm Beach	FL	33412	4	2	Shingle	Stucco	2200	2001	355516366510
23	118407919297	Falman Heights	223 Galvin St. Atamonte ...	Palm Beach	FL	33412	4	2	Tile	Stucco	1800	2011	670903137727
24	118644679159	NULL	6 86 Helen Rd.	Palm Beach	FL	33411	5	2	Shingle	Wood	2500	2011	355153149696
25	118997219928	Adobe	89 Poco Mas Drive	Palm Beach	FL	33412	3	2	Shingle	Stucco	1220	2011	560221698167
26	119011870720	Le Petite Chambre	870 Oldham Way	Palm Beach	FL	33412	4	2	Tile	Wood	1547	2002	357076757958
27	119343234788	EastWoods Villa...	31 Joy Ridge Court	Palm Beach	FL	33412	2	1	Tile	Wood	851	2003	633110249405

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\lfflewel (62) | SP20_CIS365_30292_TEAM16 | 00:00:00 | 31 rows

SQLQuery1.sql - aca...SUAD\lfflewel (62))*

```sql
/* CLIENT TABLE*/

Select *
    From Client;
```

150 %

Results | Messages

	CID	CName	CAddress	CCity	CState	CZip	CPhone	CEmail	CType	CStartDate
1	254312897641	Quarry Inc	872 Alvarado	Tempe	AZ	85281	4809124672	QuarryInc@gmail.com	Corporation	2019-08-14
2	300887666216	Popeley	4756 Service Pass	Charleston	SC	29411	8438566414	mpopeley5@google.pl	Person	2020-02-21
3	311245789012	NULL	265 Segovia PL	Montreal	QC	H3Z2Y7	5106480863	kxhm@cisco.com	Corporation	2020-04-18
4	337941345118	Trunyx	3286 Donald Drive	Orlando	FL	32813	3211744434	dworrall6@illinois.edu	Corporation	2019-06-21
5	352966942563	Raden	576 Elmside Road	Columbus	OH	43268	6148080915	araden7@nih.gov	Person	2020-01-08
6	353453080593	Linklinks	441 Memorial Pass	Houston	TX	77271	7139599516	vosgorby7@shutterfly.com	Corporation	2019-04-24
7	353540235487	Tazz	2711 Graceland Street	Springfield	IL	62776	2176035742	lcollings9@cisco.com	Corporation	2020-03-16
8	353868970222	Kenaway	81382 Bartelt Street	Springfield	IL	62723	2171144785	bkenaway1@hhs.gov	Person	2020-03-21
9	354085050542	Voonder	53349 Briar Crest Trail	Lexington	KY	40586	8599423980	wpulleyh@go.com	Corporation	2019-11-10
10	354279768015	Aylwin	57 Rigney Place	Iowa City	IA	52245	3195253811	caylwin4@bbb.org	Person	2019-11-13
11	354409237289	Topicshots	7420 Bunting Plaza	Dallas	TX	75367	2142293415	cgoolyj@google.ca	Corporation	2019-04-08
12	355153149696	Pixonyx	21418 Independence Parkway	Columbus	OH	43240	7408114839	kdaunay1@jiathis.com	Corporation	2019-05-08
13	355516366510	Snaptags	88517 Summerview Avenue	Dayton	OH	45414	9371168889	nfleet8@japanpost.jp	Corporation	2020-02-07
14	356399900918	Jindrich	1 Tennessee Alley	Monroe	LA	71213	3188667907	mjindriche@digg.com	Person	2019-05-24
15	356633117549	Zoomlounge	09196 Southridge Trail	Greenville	SC	29605	8648589322	soleahy0@statcounter.com	Corporation	2020-02-14
16	357076757958	Cobbald	5 Spohn Lane	Buffalo	NY	14215	7164342516	tcobbald0@bravesites.com	Person	2019-05-14
17	357169932973	Twitterworks	089 Tennessee Lane	San Antonio	TX	78291	2107795695	ebarca3@wisc.edu	Corporation	2019-11-02
18	357949593026	Jerrom	1 Ryan Avenue	Rockford	IL	61110	8158299254	djerromd@g.co	Person	2019-07-12
19	358260108799	Skynoodle	15631 Old Shore Terrace	Houston	TX	77228	7132198816	ncowdray5@independent.co.uk	Corporation	2019-12-07
20	432408784716	Toretta	3 Becker Trail	Washington	DC	20029	2024443571	dtorettab@barnesandnoble.com	Person	2019-08-12
21	491732531713	Rosenthal	818 Surrey Parkway	Daytona Beach	FL	32118	4071330661	mrosenthal6@edublogs.org	Person	2019-05-08
22	500235062152	Eadel	6343 Jackson Plaza	Miami	FL	33142	9547478576	ajouannissong@sitemeter.com	Corporation	2020-02-14
23	553026708434	Raitt	69 Cherokee Plaza	Irving	TX	75062	8171699671	traitt8@ocn.ne.jp	Person	2019-06-06
24	559576298989	Ziemke	1120 Oxford Court	Alhambra	CA	91841	6263174375	sziemke9@seesaa.net	Person	2020-01-31
25	560221698167	Enrdigo	0 Marquette Street	Pittsburgh	PA	15286	4127572384	lenrdigoc@abc.net.au	Person	2019-12-29
26	560222557009	Blackmore	42760 Oak Court	Meridian	MS	39305	6016427576	gblackmorea@spiegel.de	Person	2019-08-05
27	560223116918	Talane	05518 Summer Ridge Road	Corpus Christi	TX	78475	3616098059	vodeoran2@redcross.org	Corporation	2020-03-16

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\lfflewel (62) | SP20_CIS365_30292_TEAM16 | 00:00:00 | 32 rows

SQLQuery1.sql - aca...SUAD\lfflewel (62))*

```sql
/* EMPLOYEE TABLE*/

Select *
    From Employee;
```

150 %

Results | Messages

	EID	EFirstName	ELastName	EPaidRate	EAddress	ECity	EState	EZip	EPhone	ESpecial
1	110833031276	Lynna	Brizland	17.70	1 Elmside Pass	Orlando	FL	32830	4078754910	Carpet Cleaning
2	147162033335	Flora	Barizeret	24.55	632 Superior Court	Jacksonville	FL	32236	9047951753	Cable Maintence
3	165941127521	Rockwell	Seakings	27.36	3153 High Crossing Road	Miami	FL	33169	9544640231	Water Damage
4	203893758715	Romona	Solland	19.53	6364 Village Green Way	Clearwater	FL	34620	7279173823	Plumbing
5	225353730378	Geno	Le Clercq	20.76	3672 Fremont Way	Boca Raton	FL	33499	5614698424	Housekeeping
6	241815730717	Andee	Adney	28.55	67403 Bunker Hill Trail	Fort Pierce	FL	34949	7726782074	Furniture Upholstery
7	25061470070	Reynard	Munnis	20.42	59 Forest Pass	Hialeah	FL	33018	7869397828	Wall Painting
8	264698979946	Sheelagh	Mordaunt	24.61	060 Knutson Hill	Clearwater	FL	33758	8133634307	Electrical Repair
9	271248371662	Emilia	Assaf	24.41	956 Longview Center	Fort Myers	FL	33994	2392836169	Emergency Inspection
10	332108469901	Hanny	Fluger	16.35	818 Evergreen Drive	Tampa	FL	33694	8138164605	Pest Control
11	339139055281	Kirby	Trays	27.75	249 Oriole Park	Pensacola	FL	32526	8508463412	Property Marketing
12	386554849807	Willis	Moir	26.60	6333 Ohio Place	Saint Petersburg	FL	33710	7279175243	Green Pest Control
13	451097310971	Annalise	Emanson	18.82	2306 Larry Circle	Punta Gorda	FL	33982	9413652385	Security Deposit Management
14	459881896308	Hillier	Ewells	20.32	983 Burning Wood Drive	Lakeland	FL	33811	8638416327	Furniture Repair
15	46073559069	Caz	Cheverell	23.61	20 Prairie Rose Crossing	Lake Worth	FL	33462	5619979714	Wall Painting
16	528800277700	Brock	Yoseloff	25.38	1943 Forest Alley	Miami	FL	33153	7861769977	Gutter Cleaning
17	58831461312	Ailene	Potter	17.26	93782 Acker Crossing	Pensacola	FL	32526	8507944360	Cable/Internet
18	647123698494	Robby	Follin	15.87	4215 Northland Circle	Tallahassee	FL	32309	8509081912	Sercurity Maintence
19	673881520786	Ginger	Bergstrand	26.61	7561 Monument Avenue	Jacksonville	FL	32236	9043030464	Vent Cleaning
20	71380725550	Barnie	Antwis	25.92	911 Mosinee Lane	Orlando	FL	32808	3218825282	Pest Control
21	74757434885	Billi	Elven	24.48	66 Schmedeman Hill	Bradenton	FL	34282	9412470736	Cable/Internet
22	74771536235	Garvin	Vasyukhin	17.89	5043 Moulton Plaza	Orlando	FL	32825	3212900775	Repair
23	786002859575	Jess	Klouz	22.83	59 Summerview Junction	Tampa	FL	33680	8134544816	Wall Repair
24	799635302453	Raf	Shillaber	25.56	0782 Almo Drive	Pensacola	FL	32505	8506341496	Flooring
25	811480423384	Harlin	Goodridge	20.34	52084 Killdeer Plaza	Jacksonville	FL	32209	9044422932	Windown Cleaning
26	845724229693	Alene	Polkinghorne	18.41	83 Oneill Terrace	Clearwater	FL	34615	7277695433	Pest Control
27	845724229694	John	Lee	20.42	54 Mission Road	Orlando	FL	32830	7277695433	Property Marketing

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\lfflewel (62) | SP20_CIS365_30292_TEAM16 | 00:00:00 | 31 rows

SQLQuery1.sql - aca...SUAD\lfflewel (62))*

```sql
/* VISIT TABLE*/

Select *
    From Visit;
```

150 %

Results | Messages

	VisitNo	CID	PropertyID	VDate	SDate	VEndDate
1	110000000001	357076757958	119011870720	2016-02-25	2016-02-25	2016-04-25
2	110000000002	353868970222	116506187506	2018-05-31	2018-05-31	2018-07-30
3	110000000003	637120442929	118306051619	2019-05-09	2019-05-09	2019-07-08
4	110000000004	677105192081	119910146670	2019-04-27	2019-04-27	2019-06-26
5	110000000005	354279768015	112009157934	2017-08-01	2017-08-01	2017-09-30
6	110000000006	300887666216	119607203347	2017-11-21	2017-11-21	2018-01-20
7	110000000007	491732531713	114907263829	2019-01-22	2019-01-22	2019-03-23
8	110000000008	352966942563	116590827911	2018-07-11	2018-07-11	2018-09-09
9	110000000009	553026708434	115201831281	2019-10-12	2019-10-12	2019-12-11
10	110000000010	559576298989	111701198556	2017-06-09	2017-06-09	2017-08-08
11	110000000011	560222557009	114110153592	2018-07-04	2018-07-04	2018-09-02
12	110000000012	432408784716	117917310741	2016-04-23	2016-04-23	2016-06-22
13	110000000013	560221698167	118997219928	2016-12-17	2016-12-17	2017-02-15
14	110000000014	357949593026	113456788989	2015-12-18	2015-12-18	2016-02-16
15	110000000015	356399900918	114456785945	2019-11-19	2019-11-19	2020-01-18
16	110000000016	356633117549	112801684917	2017-11-20	2017-11-20	2018-01-19
17	110000000017	500235062152	111899721992	2017-03-18	2017-03-18	2017-05-17
18	110000000018	354085050542	110668642690	2016-11-09	2016-11-09	2017-01-08
19	110000000019	633110249405	119343234788	2019-10-05	2019-10-05	2019-12-04
20	110000000021	630455395535	110963644282	2016-10-21	2016-10-21	2016-12-20
21	110000000022	355153149696	118644679159	2019-04-21	2019-04-21	2019-06-20
22	110000000023	560223116918	114942263294	2020-02-11	2020-02-11	2020-04-11
23	110000000024	357169932973	117470165907	2015-05-22	2015-05-22	2015-07-21
24	110000000025	670903137727	118407919297	2015-12-17	2015-12-17	2016-02-15
25	110000000026	358260108799	115369762538	2015-06-24	2015-06-24	2015-08-23
26	110000000027	337941345118	112520538605	2016-05-22	2016-05-22	2016-09-22
27	110000000028	353453080593	114654577224	2018-08-21	2018-08-21	2018-11-21

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\lfflewel (62) | SP20_CIS365_30292_TEAM16 | 00:00:00 | 31 rows

SQLQuery1.sql - aca...SUAD\lfflewel (62))*

```sql
/* VISITADDFEE TABLE*/

Select *
    From VisitAddFee;
```

150 %

Results | Messages

	VisitNo	AddFeeDescription	AddFeeAmount
1	110000000001	Maintaince	194.59
2	110000000002	Maintaince	194.09
3	110000000003	Maintaince	148.19
4	110000000005	Repair	181.39
5	110000000006	Maintaince	125.98
6	110000000008	Maintaince	162.20
7	110000000008	Maintaince	187.41
8	110000000009	Maintaince	158.61
9	110000000009	Repair	138.59
10	110000000009	Repair	140.86
11	110000000011	Repair	184.51
12	110000000013	Repair	111.00
13	110000000013	Repair	119.06
14	110000000014	Maintaince	112.31
15	110000000014	Repair	165.25
16	110000000014	Repair	172.74
17	110000000015	Repair	101.35
18	110000000019	Maintaince	152.21
19	110000000019	Maintaince	178.14
20	110000000021	Repair	150.71
21	110000000022	Maintaince	138.49
22	110000000022	Maintaince	139.59
23	110000000022	Repair	109.92
24	110000000022	Repair	196.45
25	110000000023	Repair	163.16
26	110000000024	Maintaince	118.10
27	110000000025	Maintaince	195.72

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\lfflewel (62) | SP20_CIS365_30292_TEAM16 | 00:00:00 | 29 rows

SQLQuery1.sql - aca...SUAD\lfflewel (62))*

```sql
/* SERVICE TABLE*/

Select *
    From Service;
```

150 %

Results | Messages

	SID	SDescription	SRate
1	10000000000	Housekeeping	80.00
2	10000000001	Landscaping	400.00
3	10000000002	Pool Service	50.00
4	10000000003	Pest Control	200.00
5	10000000004	Gutter Cleaning	100.00
6	10000000005	Windown Cleaning	50.00
7	10000000006	Vent Cleaning	150.00
8	10000000007	Sercurity Maintence	100.00
9	10000000008	Roof Repair	1500.00
10	10000000009	Green Pest Control	500.00
11	10000000010	Wall Repair	800.00
12	10000000011	Remove Waste Maintence	80.00
13	10000000012	Property Marketing	1000.00
14	10000000013	Vacancies Fillings	300.00
15	10000000014	Tenant Screening	150.00
16	10000000015	Security Deposit Management	80.00
17	10000000016	Carpet Cleaning	200.00
18	10000000017	Water Damage	500.00
19	10000000018	Plumbing	250.00
20	10000000019	Electrical Repair	200.00
21	10000000020	Flooring Maintence	200.00
22	10000000021	Pet Cleaning	75.00
23	10000000022	Cable Maintence	150.00
24	10000000023	Internet Maintence	100.00
25	10000000024	Furniture Upholstery	200.00
26	10000000026	Furniture Repair	200.00
27	10000000027	Exterior Maintence	1000.00

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\lfflewel (62) | SP20_CIS365_30292_TEAM16 | 00:00:00 | 30 rows

SQLQuery1.sql - aca...SUAD\lfflewel (62))*

```sql
/* EMPLOYEESERVICEVISIT TABLE*/

Select *
    From EmployeeServiceVisit;
```

150 %

Results | Messages

	VisitNo	EID	SID
1	110000000003	110833031276	10000000014
2	110000000012	110833031276	10000000014
3	110000000019	147162033335	10000000021
4	110000000027	147162033335	10000000021
5	110000000004	165941127521	10000000015
6	110000000012	165941127521	10000000015
7	110000000027	203893758715	10000000016
8	110000000004	225353730378	10000000000
9	110000000013	225353730378	10000000000
10	110000000028	241815730717	10000000023
11	110000000001	25061470070	10000000026
12	110000000010	25061470070	10000000026
13	110000000032	25061470070	10000000026
14	110000000005	264698979946	10000000018
15	110000000013	264698979946	10000000018
16	110000000021	271248371662	10000000027
17	110000000028	271248371662	10000000027
18	110000000005	332108469901	10000000003
19	110000000014	332108469901	10000000003
20	110000000021	339139055281	10000000010
21	110000000029	339139055281	10000000010
22	110000000006	386554849807	10000000004
23	110000000014	386554849807	10000000004
24	110000000022	451097310971	10000000013
25	110000000029	451097310971	10000000013
26	110000000006	459881896308	10000000024
27	110000000015	459881896308	10000000024

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\lfflewel (62) | SP20_CIS365_30292_TEAM16 | 00:00:00 | 60 rows

SQLQuery1.sql - aca...SUAD\lfflewel (62))*

```sql
/* SERVICECOMPLETIONLOG TABLE*/

Select *
    From ServiceCompletionLog;
```

150 %

Results | Messages

ServiceNo	VisitNo	PropertyID	EFirstName	SDate	NumberOfDays	ESpecial

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\lfflewel (62) | SP20_CIS365_30292_TEAM16 | 00:00:00 | 0 rows

Client's Required Queries

1. Which state has the most owners?

SQLQuery1.sql - a...UAD\haoyuanh (56))*

```sql
/*1. State that has the most owners.*/
select CState'State',count(CState)'Number of owners'
from CLIENT
group by CState
order by 2 desc;
```

93 %

Results | Messages

	State	Number of owners
1	TX	6
2	FL	4
3	IL	3
4	OH	3
5	NY	2
6	SC	2
7	CA	2
8	DC	1
9	IA	1
10	KY	1
11	LA	1
12	MD	1

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\haoyuanh (56) | SP20_CIS365_30292_TEAM16 | 00:00:00 | 18 rows

2. Number / list of owners in each state.

SQLQuery1.sql - a...UAD\haoyuanh (56))*

```sql
/*2. Number/list of owners in each state.*/
select CState'State',count(CState)'Number of owners'
from CLIENT
group by CState
order by 2;
```

93 %

Results | Messages

	State	Number of owners
1	KY	1
2	LA	1
3	MD	1
4	MN	1
5	MS	1
6	NV	1
7	AZ	1
8	DC	1
9	PA	1
10	QC	1
11	IA	1
12	SC	2

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\haoyuanh (56) | SP20_CIS365_30292_TEAM16 | 00:00:00 | 18 rows

3. Total number of visits for each client for each season.

SQLQuery1.sql - a...UAD\haoyuanh (56))*

```sql
/*3. Total number of visits for each client for each season.*/
select CID, count(VisitNo)'number of visits', VDate'date'
from VISIT
group by CID,VDate
order by 3;
```

93 %

Results | Messages

	CID	number of visits	date
1	357169932973	1	2015-05-22
2	358260108799	1	2015-06-24
3	670903137727	1	2015-12-17
4	357949593026	1	2015-12-18
5	357076757958	1	2016-02-25
6	432408784716	1	2016-04-23
7	337941345118	1	2016-05-22
8	630455395535	1	2016-10-21
9	354085050542	1	2016-11-09
10	560221698167	1	2016-12-17
11	500235062152	1	2017-03-18
12	559576298989	1	2017-06-09

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\haoyuanh (56) | SP20_CIS365_30292_TEAM16 | 00:00:00 | 31 rows

4. Total Charge for each visit where there are multiple services performed.

SQLQuery1.sql - a...UAD\haoyuanh (56))*

```sql
/*4. Total charge for each visit where there are multiple services performed.*/
Select DISTINCT ESV.VisitNo, sum(AddFeeAmount)+sum(SRate) AS TotalCharge from
VisitAddFee VAF Join EmployeeServiceVisit ESV on VAF.VisitNo = ESV. VisitNo
Join Service S on ESV.SID = S.SID
Group by ESV.VisitNo
having count(ESV.VisitNo)>1;
```

93 %

Results | Messages

	VisitNo	TotalCharge
1	110000000001	689.18
2	110000000002	1588.18
3	110000000003	1446.38
4	110000000005	812.78
5	110000000006	551.96
6	110000000008	1099.22
7	110000000009	5976.12
8	110000000011	1469.02
9	110000000013	1120.12
10	110000000014	1800.60
11	110000000015	552.70
12	110000000019	1210.70

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\haoyuanh (56) | SP20_CIS365_30292_TEAM16 | 00:00:00 | 18 rows

5. A list of clients who have ordered pest control.

SQLQuery1.sql - a...UAD\haoyuanh (56))*

```sql
/*5. A list of clients who have ordered pest control.*/
select CName
from CLIENT
where CID in
(select CID
from VISIT
where VisitNo in
(select VisitNo
from EMPLOYEESERVICEVISIT
where SID in
(select SID
from SERVICE
where SDescription = 'Pest Control')))
```

93 %

Results | Messages

	CName
1	Aylwin
2	Jerrom

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\haoyuanh (56) | SP20_CIS365_30292_TEAM16 | 00:00:00 | 2 rows

6. The service taking the most time / number of employees.

SQLQuery1.sql - a...UAD\haoyuanh (56))*

```sql
/*requirement 5 The service taking the most time/number of employees.*/
select SDescription, count(EID)'number of employees'
from SERVICE S join EMPLOYEESERVICEVISIT ESV
on S.SID=ESV.SID
group by SDescription
order by 2 desc;
```

93 %

Results | Messages

	SDescription	number of employees
1	Furniture Repair	3
2	Property Marketing	3
3	Remove Waste Maintence	2
4	Roof Repair	2
5	Routine Inspection	2
6	Security Deposit Management	2
7	Sercurity Maintence	2
8	Tenant Screening	2
9	Vacancies Fillings	2
10	Vent Cleaning	2
11	Wall Repair	2
12	Water Damage	2

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\haoyuanh (56) | SP20_CIS365_30292_TEAM16 | 00:00:00 | 30 rows

7. Employees residing in the same state as a client.

SQLQuery1.sql - a...UAD\haoyuanh (56))*

```sql
/*7. Employees residing in the same state as a client.*/
select EFirstName, ELastName
from EMPLOYEE
where EID in
(select EID
from EMPLOYEESERVICEVISIT
where VisitNo in
(select VisitNo
from VISIT
where CID in
(select CID
from CLIENT
where CState = EState)))
```

93 %

Results | Messages

	EFirstName	ELastName
1	Flora	Barizeret
2	Romona	Solland
3	Emilia	Assaf
4	Kirby	Trays
5	Robby	Follin
6	Jess	Klouz
7	Inglebert	Flowerden
8	Dionysus	Siddeley

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\haoyuanh (56) | SP20_CIS365_30292_TEAM16 | 00:00:00 | 8 rows

8. Employees performing the most services.

SQLQuery1.sql - a...UAD\haoyuanh (56))*

```sql
/*8. List of employees performing the most services.*/
select EFirstName, ELastName, count(SID)'services'
from EMPLOYEE E join EMPLOYEESERVICEVISIT ESV
on E.EID=ESV.EID
group by EFirstName,ELastName
order by 3 desc;
```

93 %

Results | Messages

	EFirstName	ELastName	services
1	Reynard	Munnis	3
2	Mitchael	Pinson	2
3	Alene	Polkinghorne	2
4	Ailene	Potter	2
5	Rockwell	Seakings	2
6	Raf	Shillaber	2
7	Dionysus	Siddeley	2
8	Warner	Thacke	2
9	Kirby	Trays	2
10	Garvin	Vasyukhin	2
11	Brock	Yoseloff	2
12	Willis	Moir	2

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\haoyuanh (56) | SP20_CIS365_30292_TEAM16 | 00:00:00 | 31 rows

9. Total revenue received last year.

SQLQuery1.sql - a...UAD\haoyuanh (71))*

```sql
/*9. Total revenue received last year.*/
Select sum(AddFeeAmount)+sum(SRate) AS TotalCharge from
VisitAddFee VAF Join EmployeeServiceVisit ESV on VAF.VisitNo = ESV. VisitNo
Join Service S on ESV.SID = S.SID
join VISIT V on V.VisitNo=ESV.VisitNo
group by V.VDate
having year(V.VDate)=year(getdate())-1;
```

93 %

Results | Messages

	TotalCharge
1	2568.90
2	1446.38
3	1210.70
4	5976.12
5	552.70

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\haoyuanh (71) | SP20_CIS365_30292_haoy... | 00:00:00 | 5 rows

10. Total damage caused by the last hurricane.

SQLQuery1.sql - a...UAD\haoyuanh (71))*

```sql
/*10. Total damaged caused by the last hurricane.*/
select sum(AddFeeAmount)'Total Damage'
from VISITADDFEE
where AddFeeDescription = 'Repair';
```

93 %

Results | Messages

	Total Damage
1	2295.59

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\haoyuanh (71) | SP20_CIS365_30292_haoy... | 00:00:00 | 1 rows

11. Employees making more than the average rate for their job specification.

SQLQuery1.sql - a...UAD\haoyuanh (71))*

```sql
/*11. Employees making more than the average rate for their job specification.*/
create view averagerate as
select avg(EPaidRate)'avgrate', ESpecial
from EMPLOYEE
group by ESpecial

select EFirstName, ELastName, avgrate
from EMPLOYEE E join averagerate A
on E.ESpecial = A.ESpecial
where E.EPaidRate > avgrate
```

93 %

Results | Messages

	EFirstName	ELastName	avgrate
1	Billi	Elven	22.183333
2	Wamer	Thacke	22.183333
3	Brock	Yoseloff	22.972000
4	Andee	Adney	22.972000
5	Emilia	Assaf	22.972000
6	Willis	Moir	22.716000
7	Raf	Shillaber	22.716000
8	Barnie	Antwis	21.880000
9	Flora	Barizeret	21.880000
10	Kirby	Trays	21.880000
11	Sheelagh	Mordaunt	23.766666
12	Mitchael	Pinson	23.766666

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\haoyuanh (71) | SP20_CIS365_30292_haoy... | 00:00:00 | 17 rows

12. Clients requiring multiple visits for a single service.

SQLQuery1.sql - a...UAD\haoyuanh (71))*

```sql
/*12. Clients requiring multiple visits for a single service.*/
Select CName from CLIENT
    Where CID In
     (Select CID
         from VISIT
             Where VisitNo IN
                (Select VisitNo
                    from EmployeeServiceVisit
                        Where SID in
                            (Select ESV.SID
                                from Service S
                                    left join EmployeeServiceVisit ESV on S.SID = ESV.SID
                                        Group by ESV.sid
                                            Having Count(ESV.VisitNo)>1)));
```

93 %

Results | Messages

	CName
1	Popeley
2	Trunyx
3	Raden
4	Linklinks
5	Tazz
6	Kenaway
7	Voonder
8	Aylwin
9	Topicshots
10	Pixonyx
11	Snaptags
12	Jindrich

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\haoyuanh (71) | SP20_CIS365_30292_haoy... | 00:00:00 | 30 rows

Referential Integrity Queries

milestonethree_qu...ASUAD\schin9 (97))*

```sql
/* PROOF OF REFRENTIAL INTEGRITY */
SELECT CT.CTCorporationID,C.CID
  FROM CTYPECORPORATION CT RIGHT JOIN CLIENT C ON CT.CTCorporationID=C.CID
    WHERE CT.CTCorporationID=C.CID;
```

100 %

Results | Messages

	CTCorporationID	CID
1	337941345118	337941345118
2	353453080593	353453080593
3	353540235487	353540235487
4	354085050542	354085050542
5	354409237289	354409237289
6	355153149696	355153149696
7	355516366510	355516366510
8	356633117549	356633117549
9	357169932973	357169932973
10	358260108799	358260108799
11	500235062152	500235062152
12	560223116918	560223116918

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\schin9 (97) | SP20_CIS365_30292_TEAM16 | 00:00:00 | 15 rows

milestonethree_qu...ASUAD\schin9 (68))*

```
Group by VisitNo, SID, EID
Having Count(VisitNo) > 1 AND COUNT(SID) > 1 AND COUNT(EID) > 1;


/* PROOF OF REFRENTIAL INTEGRITY */
SELECT V.VisitNo, VF.VisitNo
 FROM VISIT V JOIN  VisitAddFee VF ON V.VisitNo = VF.VisitNo
  WHERE V.VisitNo = VF.VisitNo;
```

100 %

Results | Messages

	VisitNo	VisitNo
1	110000000001	110000000001
2	110000000002	110000000002
3	110000000003	110000000003
4	110000000005	110000000005
5	110000000006	110000000006
6	110000000008	110000000008
7	110000000008	110000000008
8	110000000009	110000000009
9	110000000009	110000000009
10	110000000009	110000000009
11	110000000011	110000000011
12	110000000013	110000000013
13	110000000013	110000000013
14	110000000014	110000000014
15	110000000014	110000000014
16	110000000014	110000000014
17	110000000015	110000000015
18	110000000019	110000000019
19	110000000019	110000000019
20	110000000020	110000000020

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\schin9 (68) | SP20_CIS365_30292_TEAM16 | 00:00:00 | 30 rows

milestonethree_qu...ASUAD\schin9 (97))*

```sql
/* PROOF OF REFRENTIAL INTEGRITY */
SELECT CP.CTPersonID,C.CID
 FROM CTYPEPERSON CP RIGHT JOIN CLIENT C ON CP.CTPersonID=C.CID
   WHERE CP.CTPersonID=C.CID;
```

100 %

Results | Messages

	CTPersonID	CID
1	300887666216	300887666216
2	352966942563	352966942563
3	353868970222	353868970222
4	354279768015	354279768015
5	356399900918	356399900918
6	357076757958	357076757958
7	357949593026	357949593026
8	432408784716	432408784716
9	491732531713	491732531713
10	553026708434	553026708434
11	559576298989	559576298989
12	560221698167	560221698167

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\schin9 (97) | SP20_CIS365_30292_TEAM16 | 00:00:00 | 15 rows

milestonethree_qu...ASUAD\schin9 (68))*

```sql
 FROM SERVICE S JOIN EMPLOYEESERVICEVISIT EV ON S.SID = EV.SID
  WHERE S.SID = EV.SID;

/* PROOF OF REFRENTIAL INTEGRITY */
 SELECT V.VisitNo, EV.VisitNo
  FROM VISIT V JOIN EMPLOYEESERVICEVISIT EV ON V.VisitNo = EV.VisitNo
   WHERE V.VisitNo = EV.VisitNo;
```

100 %

Results | Messages

	VisitNo	VisitNo
1	110000000001	110000000001
2	110000000001	110000000001
3	110000000002	110000000002
4	110000000002	110000000002
5	110000000003	110000000003
6	110000000003	110000000003
7	110000000004	110000000004
8	110000000004	110000000004
9	110000000005	110000000005
10	110000000005	110000000005
11	110000000006	110000000006
12	110000000006	110000000006
13	110000000007	110000000007
14	110000000007	110000000007
15	110000000008	110000000008
16	110000000008	110000000008
17	110000000009	110000000009
18	110000000009	110000000009
19	110000000010	110000000010
20	110000000010	110000000010

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\schin9 (68) | SP20_CIS365_30292_TEAM16 | 00:00:00 | 60 rows

milestonethree_qu...ASUAD\schin9 (68))*

```sql
SELECT V.PropertyID, P.PropertyID
 FROM VISIT V JOIN PROPERTY P ON V.PropertyID = P.PropertyID
  WHERE V.PropertyID = P.PropertyID;


/* PROOF OF REFRENTIAL INTEGRITY */
SELECT V.CID,C.CID
 FROM VISIT V JOIN CLIENT C ON V.CID=C.CID
  WHERE V.CID=C.CID;
```

100 %

Results | Messages

	CID	CID
1	357076757958	357076757958
2	353868970222	353868970222
3	637120442929	637120442929
4	677105192081	677105192081
5	354279768015	354279768015
6	300887666216	300887666216
7	491732531713	491732531713
8	352966942563	352966942563
9	553026708434	553026708434
10	559576298989	559576298989
11	560222557009	560222557009
12	432408784716	432408784716
13	560221698167	560221698167
14	357949593026	357949593026
15	356399900918	356399900918
16	356633117549	356633117549
17	500235062152	500235062152
18	354085050542	354085050542
19	633110249405	633110249405
20	354409237289	354409237289

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\schin9 (68) | SP20_CIS365_30292_TEAM16 | 00:00:00 | 30 rows

milestonethree_qu...ASUAD\schin9 (68))*

```sql
    WHERE V.VisitNo = EV.VisitNo;

/* PROOF OF REFRENTIAL INTEGRITY */
SELECT V.PropertyID, P.PropertyID
 FROM VISIT V JOIN PROPERTY P ON V.PropertyID = P.PropertyID
  WHERE V.PropertyID = P.PropertyID;
```

100 %

Results | Messages

	PropertyID	PropertyID
1	119011870720	119011870720
2	116506187506	116506187506
3	118306051619	118306051619
4	119910146670	119910146670
5	112009157934	112009157934
6	119607203347	119607203347
7	114907263829	114907263829
8	116590827911	116590827911
9	115201831281	115201831281
10	111701198556	111701198556
11	114110153592	114110153592
12	117917310741	117917310741
13	118997219928	118997219928
14	113456788989	113456788989
15	114456785945	114456785945
16	112801684917	112801684917
17	111899721992	111899721992
18	110668642690	110668642690
19	119343234788	119343234788
20	115619751617	115619751617

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\schin9 (68) | SP20_CIS365_30292_TEAM16 | 00:00:00 | 30 rows

milestonethree_qu...ASUAD\schin9 (68))*

```sql
SELECT E.EID, EV.EID
FROM EMPLOYEE E JOIN EMPLOYEESERVICEVISIT EV ON E.EID = EV.EID
 WHERE E.EID = EV.EID;


/* PROOF OF REFRENTIAL INTEGRITY */
SELECT S.SID, EV.SID
 FROM SERVICE S JOIN EMPLOYEESERVICEVISIT EV ON S.SID = EV.SID
  WHERE S.SID = EV.SID;
```

100 %

Results | Messages

	SID	SID
1	10000000026	10000000026
2	10000000007	10000000007
3	10000000029	10000000029
4	10000000030	10000000030
5	10000000014	10000000014
6	10000000012	10000000012
7	10000000015	10000000015
8	10000000000	10000000000
9	10000000018	10000000018
10	10000000003	10000000003
11	10000000004	10000000004
12	10000000024	10000000024
13	10000000006	10000000006
14	10000000017	10000000017
15	10000000022	10000000022
16	10000000002	10000000002
17	10000000008	10000000008
18	10000000020	10000000020
19	10000000026	10000000026
20	10000000011	10000000011

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\schin9 (68) | SP20_CIS365_30292_TEAM16 | 00:00:00 | 60 rows

milestonethree_qu...ASUAD\schin9 (68))*

```sql
SELECT V.VisitNo, VF.VisitNo
 FROM VISIT V JOIN  VisitAddFee VF ON V.VisitNo = VF.VisitNo
  WHERE V.VisitNo = VF.VisitNo;



/* PROOF OF REFRENTIAL INTEGRITY */
 SELECT E.EID, EV.EID
 FROM EMPLOYEE E JOIN EMPLOYEESERVICEVISIT EV ON E.EID = EV.EID
  WHERE E.EID = EV.EID;
```

100 %

Results | Messages

	EID	EID
1	25061470070	25061470070
2	58831461312	58831461312
3	799635302453	799635302453
4	845724229693	845724229693
5	110833031276	110833031276
6	74757434885	74757434885
7	165941127521	165941127521
8	225353730378	225353730378
9	264698979946	264698979946
10	332108469901	332108469901
11	386554849807	386554849807
12	459881896308	459881896308
13	647123698494	647123698494
14	786002859575	786002859575
15	862696682857	862696682857
16	954093009611	954093009611
17	811480423384	811480423384
18	847690350105	847690350105
19	25061470070	25061470070
20	903799201576	903799201576

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\schin9 (68) | SP20_CIS365_30292_TEAM16 | 00:00:00 | 60 rows

Entity Integrity Queries

employeeservicevis...ASUAD\schin9 (82))* | milestonethree_qu...ASUAD\schin9 (68))*

```sql
/* PROOF OF NO NULL VALUES IN PRIMARY KEY ATTRIBUTES */
SELECT PROPERTYID
 FROM PROPERTY
  WHERE PROPERTYID is NULL ;


/* PROOF OF NO NULL VALUES IN PRIMARY KEY ATTRIBUTES */
SELECT EID
 FROM EMPLOYEE
  WHERE EID is NULL ;


/* PROOF OF NO NULL VALUES IN PRIMARY KEY ATTRIBUTES */
 SELECT SID
  FROM SERVICE
    WHERE SID is NULL ;
```

100 %

Results | Messages

PROPERTYID

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\schin9 (68) | SP20_CIS365_30292_TEAM16 | 00:00:00 | 0 rows

employeeservicevis...ASUAD\schin9 (82))* | milestonethree_qu...ASUAD\schin9 (68))*

```sql
/* PROOF OF NO NULL VALUES IN PRIMARY KEY ATTRIBUTES */
SELECT CID
  FROM CLIENT
    WHERE CID is NULL ;

/* PROOF OF NO NULL VALUES IN PRIMARY KEY ATTRIBUTES */
SELECT CTCorporationID
  FROM CTYPECORPORATION
    WHERE CTCorporationID is NULL ;

/* PROOF OF NO NULL VALUES IN PRIMARY KEY ATTRIBUTES */
SELECT CTPersonID
  FROM CTYPEPERSON
```

100 %

Results | Messages

CID

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\schin9 (68) | SP20_CIS365_30292_TEAM16 | 00:00:00 | 0 rows

employeeservicevis...ASUAD\schin9 (82))* | milestonethree_qu...ASUAD\schin9 (68))*

```
/* PROOF OF NO NULL VALUES IN PRIMARY KEY ATTRIBUTES */
SELECT CTCorporationID
  FROM CTYPECORPORATION
    WHERE CTCorporationID is NULL ;


/* PROOF OF NO NULL VALUES IN PRIMARY KEY ATTRIBUTES */
SELECT CTPersonID
  FROM CTYPEPERSON
    WHERE  CTPersonID is NULL ;


/* PROOF OF NO NULL VALUES IN PRIMARY KEY ATTRIBUTES */
SELECT VisitNo
  FROM VTSTT
```

100 %

Results | Messages

CTCorporationID

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\schin9 (68) | SP20_CIS365_30292_TEAM16 | 00:00:00 | 0 rows

employeeservicevis...ASUAD\schin9 (82))* | milestonethree_qu...ASUAD\schin9 (68))*

```
/* PROOF OF NO NULL VALUES IN PRIMARY KEY ATTRIBUTES */
SELECT CTPersonID
  FROM CTYPEPERSON
    WHERE  CTPersonID is NULL ;


/* PROOF OF NO NULL VALUES IN PRIMARY KEY ATTRIBUTES */
SELECT VisitNo
  FROM VISIT
    WHERE  VisitNo is NULL ;



/* PROOF OF NO NULL VALUES IN PRIMARY KEY ATTRIBUTES */
SELECT VisitNo, ETD, STD
```

100 %

Results | Messages

CTPersonID

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\schin9 (68) | SP20_CIS365_30292_TEAM16 | 00:00:00 | 0 rows

employeeservicevis...ASUAD\schin9 (82))* | milestonethree_qu...ASUAD\schin9 (68))*

```sql
/* PROOF OF NO NULL VALUES IN PRIMARY KEY ATTRIBUTES */
SELECT EID
 FROM EMPLOYEE
  WHERE EID is NULL ;


/* PROOF OF NO NULL VALUES IN PRIMARY KEY ATTRIBUTES */
 SELECT SID
  FROM SERVICE
    WHERE SID is NULL ;


/* PROOF OF NO NULL VALUES IN PRIMARY KEY ATTRIBUTES */
SELECT CID
  FROM CLIENT
```

100 %

Results | Messages

EID

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\schin9 (68) | SP20_CIS365_30292_TEAM16 | 00:00:00 | 0 rows

employeeservicevis...ASUAD\schin9 (82))* | milestonethree_qu...ASUAD\schin9 (68))*

```sql
/* PROOF OF NO NULL VALUES IN PRIMARY KEY ATTRIBUTES */
SELECT VisitNo, EID, SID
  FROM EMPLOYEESERVICEVISIT
    WHERE VisitNo is NULL ;


/* PROOF OF NO NULL VALUES IN PRIMARY KEY ATTRIBUTES */
SELECT VisitNo
  FROM VISITADDFEE
    WHERE VisitNo is NULL ;
```

100 %

Results | Messages

VisitNo	EID	SID

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\schin9 (68) | SP20_CIS365_30292_TEAM16 | 00:00:00 | 0 rows

employeeservicevis...ASUAD\schin9 (82))* | milestonethree_qu...ASUAD\schin9 (68))*

```sql
/* PROOF OF NO NULL VALUES IN PRIMARY KEY ATTRIBUTES */
 SELECT SID
  FROM SERVICE
    WHERE SID is NULL ;


/* PROOF OF NO NULL VALUES IN PRIMARY KEY ATTRIBUTES */
SELECT CID
  FROM CLIENT
    WHERE CID is NULL ;


/* PROOF OF NO NULL VALUES IN PRIMARY KEY ATTRIBUTES */
SELECT CTCorporationID
  FROM CTYPECORPORATION
```

100 %

Results | Messages

SID

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\schin9 (68) | SP20_CIS365_30292_TEAM16 | 00:00:00 | 0 rows

employeeservicevis...ASUAD\schin9 (82))* | milestonethree_qu...ASUAD\schin9 (68))*

```sql
/* PROOF OF NO NULL VALUES IN PRIMARY KEY ATTRIBUTES */
SELECT VisitNo
  FROM VISIT
    WHERE  VisitNo is NULL ;


/* PROOF OF NO NULL VALUES IN PRIMARY KEY ATTRIBUTES */
SELECT VisitNo, EID, SID
  FROM EMPLOYEESERVICEVISIT
    WHERE VisitNo is NULL ;


/* PROOF OF NO NULL VALUES IN PRIMARY KEY ATTRIBUTES */
```

100 %

Results | Messages

VisitNo

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\schin9 (68) | SP20_CIS365_30292_TEAM16 | 00:00:00 | 0 rows

employeeservicevis...ASUAD\schin9 (82))* | milestonethree_qu...ASUAD\schin9 (68))*

```sql
/* PROOF OF NO NULL VALUES IN PRIMARY KEY ATTRIBUTES */
SELECT VisitNo
  FROM VISITADDFEE
    WHERE VisitNo is NULL ;
```

100 %

Results | Messages

VisitNo

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\schin9 (68) | SP20_CIS365_30292_TEAM16 | 00:00:00 | 0 rows

SQLQuery1.sql - ac...ASUAD\scui12 (85))*

```sql
/*Proof of uniqueness in all primary values*/
Select PropertyID, Count(PropertyID) as TimeofApperance from PROPERTY
    Group by PropertyID
    Having Count(PropertyID) > 1;

/*Proof of uniqueness in all primary values*/
Select EID, Count(EID) as TimeofApperance from EMPLOYEE
Group by EID
Having Count(EID) > 1;

/*Proof of uniqueness in all primary values*/
Select SID, Count(SID) as TimeofApperance from SERVICE
Group by SID
Having Count(SID) > 1;

/*Proof of uniqueness in all primary values*/
Select CID, Count(CID) as TimeofApperance from CLIENT
```

100 %

Results | Messages

PropertyID	TimeofApperance

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\scui12 (85) | SP20_CIS365_30292_TEAM16 | 00:00:00 | 0 rows

SQLQuery1.sql - ac...ASUAD\scui12 (85))*

```sql
    Having Count(PropertyID) > 1;

/*Proof of uniqueness in all primary values*/
Select EID, Count(EID) as TimeofApperance from EMPLOYEE
Group by EID
Having Count(EID) > 1;

/*Proof of uniqueness in all primary values*/
Select SID, Count(SID) as TimeofApperance from SERVICE
Group by SID
Having Count(SID) > 1;

/*Proof of uniqueness in all primary values*/
Select CID, Count(CID) as TimeofApperance from CLIENT
Group by CID
Having Count(CID) > 1;
```

100 %

Results | Messages

EID	TimeofApperance

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\scui12 (85) | SP20_CIS365_30292_TEAM16 | 00:00:00 | 0 rows

SQLQuery1.sql - ac...ASUAD\scui12 (85))*

```sql
/*Proof of uniqueness in all primary values*/
Select SID, Count(SID) as TimeofApperance from SERVICE
Group by SID
Having Count(SID) > 1;

/*Proof of uniqueness in all primary values*/
Select CID, Count(CID) as TimeofApperance from CLIENT
Group by CID
Having Count(CID) > 1;

/*Proof of uniqueness in all primary values*/
Select CTCorporationID, Count(CTCorporationID) as TimeofApperance from CTYPECORPORATION
Group by CTCorporationID
Having Count(CTCorporationID) > 1;
```

100 %

Results | Messages

SID	TimeofApperance

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\scui12 (85) | SP20_CIS365_30292_TEAM16 | 00:00:00 | 0 rows

SQLQuery1.sql - ac...ASUAD\scui12 (85))*

```sql
/*Proof of uniqueness in all primary values*/
Select CID, Count(CID) as TimeofApperance from CLIENT
Group by CID
Having Count(CID) > 1;

/*Proof of uniqueness in all primary values*/
Select CTCorporationID, Count(CTCorporationID) as TimeofApperance from CTYPECORPORATION
Group by CTCorporationID
Having Count(CTCorporationID) > 1;


/*Proof of uniqueness in all primary values*/
Select CTPersonID, Count(CTPersonID) as TimeofApperance from CTYPEPERSON
Group by CTPersonID
Having Count(CTPersonID) > 1;

/*Proof of uniqueness in all primary values*/
```

100 %

Results | Messages

CID	TimeofApperance

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\scui12 (85) | SP20_CIS365_30292_TEAM16 | 00:00:00 | 0 rows

SQLQuery1.sql - ac...ASUAD\scui12 (85))*

```sql
/*Proof of uniqueness in all primary values*/
Select CTPersonID, Count(CTPersonID) as TimeofApperance from CTYPEPERSON
Group by CTPersonID
Having Count(CTPersonID) > 1;

/*Proof of uniqueness in all primary values*/
Select VisitNo, Count(VisitNo) as TimeofApperance from VISIT
Group by VisitNo
Having Count(VisitNo) > 1;
```

100 %

Results | Messages

CTPersonID	TimeofApperance

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\scui12 (85) | SP20_CIS365_30292_TEAM16 | 00:00:00 | 0 rows

SQLQuery1.sql - ac...ASUAD\scui12 (85))*

```sql
Having Count(CID) > 1;

/*Proof of uniqueness in all primary values*/
Select CTCorporationID, Count(CTCorporationID) as TimeofApperance from CTYPECORPORATION
Group by CTCorporationID
Having Count(CTCorporationID) > 1;


/*Proof of uniqueness in all primary values*/
Select CTPersonID, Count(CTPersonID) as TimeofApperance from CTYPEPERSON
Group by CTPersonID
Having Count(CTPersonID) > 1;

/*Proof of uniqueness in all primary values*/
Select VisitNo, Count(VisitNo) as TimeofApperance from VISIT
Group by VisitNo
Having Count(VisitNo) > 1;
```

100 %

Results | Messages

CTCorporationID	TimeofApperance

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\scui12 (85) | SP20_CIS365_30292_TEAM16 | 00:00:00 | 0 rows

SQLQuery2.sql - ac...ASUAD\scui12 (85))*

```sql
/*Proof of uniqueness in all primary values*/
Select VisitNo, Count(VisitNo) as TimeofApperance from VISIT
Group by VisitNo
Having Count(VisitNo) > 1;
```

100 %

Results | Messages

VisitNo	TimeofApperance

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\scui12 (85) | SP20_CIS365_30292_TEAM16 | 00:00:00 | 0 rows

SQLQuery3.sql - ac...ASUAD\scui12 (71))*

```sql
/*Proof of uniqueness in all primary values*/
Select VisitNo, AddFeeAmount, AddFeeDescription, Count(*) AS TimeofApperance from VISITADDFEE
Group by VisitNo, AddFeeAmount, AddFeeDescription
Having Count(VisitNo) > 1 AND COUNT(AddFeeAmount) > 1 AND COUNT(AddFeeDescription) > 1;
```

100 %

Results | Messages

VisitNo	AddFeeAmount	AddFeeDescription	TimeofApperance

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\scui12 (71) | SP20_CIS365_30292_TEAM16 | 00:00:00 | 0 rows

visitaddfee.sql - ac...(ASUAD\schin9 (87)) | employeeservicevis...ASUAD\schin9 (82))* | milestonethree_qu...ASUAD\schin9 (68))*

```sql
/*Proof of uniqueness in all primary values*/
Select VisitNo, SID, EID, Count(*) AS TimeofApperance from EMPLOYEESERVICEVISIT
Group by VisitNo, SID, EID
Having Count(VisitNo) > 1 AND COUNT(SID) > 1 AND COUNT(EID) > 1;
```

100 %

Results | Messages

VisitNo	SID	EID	TimeofApperance

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\schin9 (68) | SP20_CIS365_30292_TEAM16 | 00:00:00 | 0 rows

Basic Queries

1. Adding a new client with no last name (e.g. a corporation) and a Canadian zip code (6 letters and numbers) should ***succeed***.

Image 1 of 2

SQLQuery3.sql - ac...ASUAD\schin9 (98))* | SQLQuery2.sql - ac...SUAD\schin9 (130))* | SQLQuery1.sql - ac...ASUAD\schin9 (86))*

```
SELECT *
    FROM CLIENT;
```

85 %

Results | Messages

	CID	CName	CAddress	CCity	CState	CZip	CPhone	CEmail	CType	CSta
1	300887666216	Popeley	4756 Service Pass	Charleston	SC	29411	8438566414	mpopeley5@google.pl	Person	202
2	337941345118	Trunyx	3286 Donald Drive	Orlando	FL	32813	3211744434	dworrall6@illinois.edu	Corporation	201
3	352966942563	Raden	576 Elmside Road	Columbus	OH	43268	6148080915	araden7@nih.gov	Person	202
4	353453080593	Linklinks	441 Memorial Pass	Houston	TX	77271	7139599516	vosgorby7@shutterfly.com	Corporation	201
5	353540235487	Tazz	2711 Graceland Street	Springfield	IL	62776	2176035742	lcollings9@cisco.com	Corporation	202
6	353868970222	Kenaway	81382 Bartelt Street	Springfield	IL	62723	2171144785	bkenaway1@hhs.gov	Person	202
7	354085050542	Voonder	53349 Briar Crest Trail	Lexington	KY	40586	8599423980	wpulleyh@go.com	Corporation	201
8	354279768015	Aylwin	57 Rigney Place	Iowa City	IA	52245	3195253811	caylwin4@bbb.org	Person	201
9	354409237289	Topicshots	7420 Bunting Plaza	Dallas	TX	75367	2142293415	cgoolyj@google.ca	Corporation	201
10	355153149696	Pixonyx	21418 Independence Parkway	Columbus	OH	43240	7408114839	kdaunay1@jiathis.com	Corporation	201
11	355516366510	Snaptags	88517 Summerview Avenue	Dayton	OH	45414	9371168889	nfleet8@japanpost.jp	Corporation	202
12	356399900918	Jindrich	1 Tennessee Alley	Monroe	LA	71213	3188667907	mjindriche@digg.com	Person	201
13	356633117549	Zoomlounge	09196 Southridge Trail	Greenville	SC	29605	8648589322	soleahy0@statcounter.com	Corporation	202
14	357076757958	Cobbald	5 Spohn Lane	Buffalo	NY	14215	7164342516	tcobbald0@bravesites.com	Person	201
15	357169932973	Twitterworks	089 Tennessee Lane	San Ant...	TX	78291	2107795695	ebarca3@wisc.edu	Corporation	201
16	357949593026	Jerrom	1 Ryan Avenue	Rockford	IL	61110	8158299254	djerromd@g.co	Person	201
17	358260108799	Skynoodle	15631 Old Shore Terrace	Houston	TX	77228	7132198816	ncowdray5@independen...	Corporation	201
18	432408784716	Toretta	3 Becker Trail	Washing...	DC	20029	2024443571	dtorettab@barnesandnob...	Person	201
19	491732531713	Rosenthal	818 Surrey Parkway	Daytona...	FL	32118	4071330661	mrosenthal6@edublogs.org	Person	201
20	500235062152	Eadel	6343 Jackson Plaza	Miami	FL	33142	9547478576	ajouannissong@sitemeter...	Corporation	202
21	553026708434	Raitt	69 Cherokee Plaza	Irving	TX	75062	8171699671	traitt8@ocn.ne.jp	Person	201
22	559576298989	Ziemke	1120 Oxford Court	Alhambra	CA	91841	6263174375	sziemke9@seesaa.net	Person	202
23	560221698167	Enrdigo	0 Marquette Street	Pittsburgh	PA	15286	4127572384	lenrdigoc@abc.net.au	Person	201

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\schin9 (98) | SP20_CIS365_30292_TEAM16 | 00:00:00 | 30 rows

Image 2 of 2

milestonefourqueri...SUAD\schin9 (147))*

```
/*Insert a new client with no last name (e.g. a corporation) and a Canadian zip code (6 letters and numbers) should  */

insert into CLIENT values(311245789012, NULL, '265 Segovia PL' , 'Montreal', 'QC', 'H3Z2Y7', 5106480863, 'kxhm@cisco.com', 'Corporation', '4/18/2020');

SELECT *
    FROM CLIENT;
```

85 %

Results | Messages

	CID	CName	CAddress	CCity	CState	CZip	CPhone	CEmail	CType	CStartDate
1	300887666216	Popeley	4756 Service Pass	Charleston	SC	29411	8438566414	mpopeley5@google.pl	Person	2020-02-21
2	311245789012	NULL	265 Segovia PL	Montreal	QC	H3Z2Y7	5106480863	kxhm@cisco.com	Corporation	2020-04-18
3	337941345118	Trunyx	3286 Donald Drive	Orlando	FL	32813	3211744434	dworrall6@illinois.edu	Corporation	2019-06-21
4	352966942563	Raden	576 Elmside Road	Columbus	OH	43268	6148080915	araden7@nih.gov	Person	2020-01-08
5	353453080593	Linklinks	441 Memorial Pass	Houston	TX	77271	7139599516	vosgorby7@shutterfly.com	Corporation	2019-04-24
6	353540235487	Tazz	2711 Graceland Street	Springfield	IL	62776	2176035742	lcollings9@cisco.com	Corporation	2020-03-16
7	353868970222	Kenaway	81382 Bartelt Street	Springfield	IL	62723	2171144785	bkenaway1@hhs.gov	Person	2020-03-21
8	354085050542	Voonder	53349 Briar Crest Trail	Lexington	KY	40586	8599423980	wpulleyh@go.com	Corporation	2019-11-10
9	354279768015	Aylwin	57 Rigney Place	Iowa City	IA	52245	3195253811	caylwin4@bbb.org	Person	2019-11-13
10	354409237289	Topicshots	7420 Bunting Plaza	Dallas	TX	75367	2142293415	cgoolyj@google.ca	Corporation	2019-04-08
11	355153149696	Pixonyx	21418 Independence Parkway	Columbus	OH	43240	7408114839	kdaunay1@jiathis.com	Corporation	2019-05-08
12	355516366510	Snaptags	88517 Summerview Avenue	Dayton	OH	45414	9371168889	nfleet8@japanpost.jp	Corporation	2020-02-07
13	356399900918	Jindrich	1 Tennessee Alley	Monroe	LA	71213	3188667907	mjindriche@digg.com	Person	2019-05-24
14	356633117549	Zoomlou...	09196 Southridge Trail	Greenville	SC	29605	8648589322	soleahy0@statcounter.com	Corporation	2020-02-14
15	357076757958	Cobbald	5 Spohn Lane	Buffalo	NY	14215	7164342516	tcobbald0@bravesites.com	Person	2019-05-14
16	357169932973	Twitterw...	089 Tennessee Lane	San Ant...	TX	78291	2107795695	ebarca3@wisc.edu	Corporation	2019-11-02
17	357949593026	Jerrom	1 Ryan Avenue	Rockford	IL	61110	8158299254	djerromd@g.co	Person	2019-07-12
18	358260108799	Skynoodle	15631 Old Shore Terrace	Houston	TX	77228	7132198816	ncowdray5@independen...	Corporation	2019-12-07
19	432408784716	Toretta	3 Becker Trail	Washing...	DC	20029	2024443571	dtorettab@barnesandnob...	Person	2019-08-12
20	491732531713	Rosenthal	818 Surrey Parkway	Daytona...	FL	32118	4071330661	mrosenthal6@edublogs.org	Person	2019-05-08
21	500235062152	Eadel	6343 Jackson Plaza	Miami	FL	33142	9547478576	ajouannissong@sitemeter...	Corporation	2020-02-14
22	553026708434	Raitt	69 Cherokee Plaza	Irving	TX	75062	8171699671	traitt8@ocn.ne.jp	Person	2019-06-06

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\schin9 (147) | SP20_CIS365_30292_TEAM16 | 00:00:00 | 31 rows

2. Adding a new client without a phone number should *fail*.

Image 1 of 2

milestonethree_qu...ASUAD\schin9 (68))*

```
/* SHOWS ALL TUPLES FOR CLIENT TABLE */
SELECT * FROM CLIENT;


/* SHOWS ALL TUPLES FOR  CTYPEPERSON TABLE */
SELECT * FROM CTYPEPERSON;
```

100 %

Results | Messages

	CID	CName	CAddress	CCity	CState	CZip	CPhone	CEmail	CType
1	300887666216	Popeley	4756 Service Pass	Charleston	SC	29411	8438566414	mpopeley5@google.pl	Person
2	337941345118	Trunyx	3286 Donald Drive	Orlando	FL	32813	3211744434	dworrall6@illinois.edu	Corporation
3	352966942563	Raden	576 Elmside Road	Columbus	OH	43268	6148080915	araden7@nih.gov	Person
4	353453080593	Linklinks	441 Memorial Pass	Houston	TX	77271	7139599516	vosgorby7@shutterfly.com	Corporation
5	353540235487	Tazz	2711 Graceland Street	Springfield	IL	62776	2176035742	lcollings9@cisco.com	Corporation
6	353868970222	Kenaway	81382 Bartelt Street	Springfield	IL	62723	2171144785	bkenaway1@hhs.gov	Person
7	354085050542	Voonder	53349 Briar Crest Trail	Lexington	KY	40586	8599423980	wpulleyh@go.com	Corporation
8	354279768015	Aylwin	57 Rigney Place	Iowa City	IA	52245	3195253811	caylwin4@bbb.org	Person
9	354409237289	Topicshots	7420 Bunting Plaza	Dallas	TX	75367	2142293415	cgoolyj@google.ca	Corporation
10	355153149696	Pixonyx	21418 Independence Parkway	Columbus	OH	43240	7408114839	kdaunay1@jiathis.com	Corporation
11	355516366510	Snaptags	88517 Summerview Avenue	Dayton	OH	45414	9371168889	nfleet8@japanpost.jp	Corporation
12	356399900918	Jindrich	1 Tennessee Alley	Monroe	LA	71213	3188667907	mjindriche@digg.com	Person
13	356633117549	Zoomlounge	09196 Southridge Trail	Greenville	SC	29605	8648589322	soleahy0@statcounter.com	Corporation
14	357076757958	Cobbald	5 Spohn Lane	Buffalo	NY	14215	7164342516	tcobbald0@bravesites.com	Person
15	357169932973	Twitterworks	089 Tennessee Lane	San Antonio	TX	78291	2107795695	ebarca3@wisc.edu	Corporation
16	357949593026	Jerrom	1 Ryan Avenue	Rockford	IL	61110	8158299254	djerromd@g.co	Person
17	358260108799	Skynoodle	15631 Old Shore Terrace	Houston	TX	77228	7132198816	ncowdray5@independent.co.uk	Corporation
18	432408784716	Toretta	3 Becker Trail	Washington	DC	20029	2024443571	dtorettab@barnesandnoble.com	Person
19	491732531713	Rosenthal	818 Surrey Parkway	Daytona Beach	FL	32118	4071330661	mrosenthal6@edublogs.org	Person
20	500235062152	Eadel	6343 Jackson Plaza	Miami	FL	33142	9547478576	ajouannissong@sitemeter.com	Corporation
21	553026708434	Raitt	69 Cherokee Plaza	Irving	TX	75062	8171699671	traitt8@ocn.ne.jp	Person

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\schin9 (68) | SP20_CIS365_30292_TEAM16 | 00:00:00 | 30 rows

Image 2 of 2

SQLQuery1.sql - ac...ASUAD\schin9 (84))*

```sql
insert into CLIENT values(358260108799, 'Skynoodle', '15631 Old Shore Terrace', 'Houston', 'TX', 77228, 7132198816, 'ncowdray5@independent.co.uk', 'Corporation', '12/
insert into CLIENT values(337941345118, 'Trunyx', '3286 Donald Drive', 'Orlando', 'FL', 32813, 3211744434, 'dworrall6@illinois.edu', 'Corporation', '6/21/2019');
insert into CLIENT values(353453080593, 'Linklinks', '441 Memorial Pass', 'Houston', 'TX', 77271, 7139599516, 'vosgorby7@shutterfly.com', 'Corporation', '4/24/2019');
insert into CLIENT values(355516366510, 'Snaptags', '88517 Summerview Avenue', 'Dayton', 'OH', 45414, 9371168889,'nfleet8@japanpost.jp', 'Corporation', '2/7/2020');
insert into CLIENT values(353540235487, 'Tazz', '2711 Graceland Street', 'Springfield', 'IL', 62776, 2176035742, 'lcollings9@cisco.com', 'Corporation', '3/16/2020');
insert into CLIENT values(311245789012, NULL, '265 Segovia PL' , 'Montreal', 'QC', 'H3Z2Y7', 5106480863, 'kxhm@cisco.com', 'Corporation', '4/18/2020');
insert into CLIENT values(311245789012, 'Ichika Inc', '458 Canyon Heights' , 'San Francisco', 'CA', '94539', NULL, 'IchikaInc@cisco.com', 'Corporation', '8/18/2020');



/* SHOWS ALL TUPLES FOR CLIENT TABLE */
SELECT * FROM CLIENT;

DROP TABLE CLIENT;
```

85 %

Messages

```
(1 row(s) affected)

(1 row(s) affected)
Msg 515, Level 16, State 2, Line 49
Cannot insert the value NULL into column 'CPhone', table 'SP20_CIS365_30292_TEAM16.dbo.CLIENT'; column does not allow nulls. INSERT fails.
The statement has been terminated.
```

85 %

Query completed with errors. | acadsql17.asurite.ad.asu.ed... | ASUAD\schin9 (84) | SP20_CIS365_30292_TEAM16 | 00:00:00 | 0 rows

3. Deleting a visit and all visit details should *succeed* using one statement.

Image 1 of 2

milestonethree_qu...ASUAD\schin9 (68))*

```
/* SHOWS ALL TUPLES FOR  VISIT TABLE */
SELECT * FROM VISIT;


/* SHOWS ALL TUPLES FOR  EMPLOYEESERVICEVISIT TABLE */
SELECT * FROM EMPLOYEESERVICEVISIT;
```

100 %

Results | Messages

	VisitNo	CID	PropertyID	VDate	SDate	VEndDate
1	110000000001	357076757958	119011870720	2016-02-25	2016-02-25	2016-04-25
2	110000000002	353868970222	116506187506	2018-05-31	2018-05-31	2018-07-30
3	110000000003	637120442929	118306051619	2019-05-09	2019-05-09	2019-07-08
4	110000000004	677105192081	119910146670	2019-04-27	2019-04-27	2019-06-26
5	110000000005	354279768015	112009157934	2017-08-01	2017-08-01	2017-09-30
6	110000000006	300887666216	119607203347	2017-11-21	2017-11-21	2018-01-20
7	110000000007	491732531713	114907263829	2019-01-22	2019-01-22	2019-03-23
8	110000000008	352966942563	116590827911	2018-07-11	2018-07-11	2018-09-09
9	110000000009	553026708434	115201831281	2019-10-12	2019-10-12	2019-12-11
10	110000000010	559576298989	111701198556	2017-06-09	2017-06-09	2017-08-08
11	110000000011	560222557009	114110153592	2018-07-04	2018-07-04	2018-09-02
12	110000000012	432408784716	117917310741	2016-04-23	2016-04-23	2016-06-22
13	110000000013	560221698167	118997219928	2016-12-17	2016-12-17	2017-02-15
14	110000000014	357949593026	113456788989	2015-12-18	2015-12-18	2016-02-16
15	110000000015	356399900918	114456785945	2019-11-19	2019-11-19	2020-01-18
16	110000000016	356633117549	112801684917	2017-11-20	2017-11-20	2018-01-19
17	110000000017	500235062152	111899721992	2017-03-18	2017-03-18	2017-05-17
18	110000000018	354085050542	110668642690	2016-11-09	2016-11-09	2017-01-08
19	110000000019	633110249405	119343234788	2019-10-05	2019-10-05	2019-12-04
20	110000000020	354409237289	115619751617	2016-05-05	2016-05-05	2016-07-04
21	110000000021	630455395535	110963644282	2016-10-21	2016-10-21	2016-12-20
22	110000000022	355153149696	118644679159	2019-04-21	2019-04-21	2019-06-20

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\schin9 (68) | SP20_CIS365_30292_TEAM16 | 00:00:00 | 30 rows

Image 2 of 2

SQLQuery1.sql - ac...ASUAD\schin9 (69))* | milestonefourqueri...ASUAD\schin9 (55))*

```
    WHERE VisitNo = '110000000020'

/* Basic Query that shows VisitNo 110000000020 is deleted from all three tables  VISIT, EMPLOYEESERVICEVISIT, and VI
SELECT V.VisitNo "VisitNo in Visit" , ESV.VisitNo "VisitNo in EMPLOYEESERVICEVISIT" , VAF.VisitNo  " VisitNo in VISI
    FROM VISIT V, EMPLOYEESERVICEVISIT ESV, VISITADDFEE VAF
      WHERE V.VisitNo = '110000000020'
      AND  ESV.VisitNo = '110000000020'
```

85 %

Results | Messages

VisitNo in Visit	VisitNo in EMPLOYEESERVICEVISIT	VisitNo in VISITADDFEE

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\schin9 (69) | SP20_CIS365_30292_TEAM16 | 00:00:00 | 0 rows

4. Two INSERT statements executed together – the first one adding a new Client, the second one adding a new Property for that Client, should *succeed*.

Image 1 of 3

SQLQuery1.sql - ac...ASUAD\schin9 (69))* | milestonefourqueri...ASUAD\schin9 (55))*

```
/* Show all tuples including new clients */
SELECT *
   FROM CLIENT;
```

85 %

Results | Messages

	CID	CName	CAddress	CCity	CState	CZip	CPhone	CEmail
1	254312897641	Quarry Inc	872 Alvarado	Tempe	AZ	85281	4809124672	QuarryInc@gmail.com
2	300887666216	Popeley	4756 Service Pass	Charleston	SC	29411	8438566414	mpopeley5@google.pl
3	311245789012	NULL	265 Segovia PL	Montreal	QC	H3Z2Y7	5106480863	kxhm@cisco.com
4	337941345118	Trunyx	3286 Donald Drive	Orlando	FL	32813	3211744434	dworrall6@illinois.edu
5	352966942563	Raden	576 Elmside Road	Columbus	OH	43268	6148080915	araden7@nih.gov
6	353453080593	Linklinks	441 Memorial Pass	Houston	TX	77271	7139599516	vosgorby7@shutterfly.co
7	353540235487	Tazz	2711 Graceland Street	Springfield	IL	62776	2176035742	lcollings9@cisco.com
8	353868970222	Kenaway	81382 Bartelt Street	Springfield	IL	62723	2171144785	bkenaway1@hhs.gov
9	354085050542	Voonder	53349 Briar Crest Trail	Lexington	KY	40586	8599423980	wpulleyh@go.com
10	354279768015	Aylwin	57 Rigney Place	Iowa City	IA	52245	3195253811	caylwin4@bbb.org
11	354409237289	Topicshots	7420 Bunting Plaza	Dallas	TX	75367	2142293415	cgoolyj@google.ca
12	355153149696	Pixonyx	21418 Independence Parkway	Columbus	OH	43240	7408114839	kdaunay1@jiathis.com
13	355516366510	Snaptags	88517 Summerview Avenue	Dayton	OH	45414	9371168889	nfleet8@japanpost.jp
14	356399900918	Jindrich	1 Tennessee Alley	Monroe	LA	71213	3188667907	mjindriche@digg.com
15	356633117549	Zoomlounge	09196 Southridge Trail	Greenville	SC	29605	8648589322	soleahy0@statcounter.c
16	357076757958	Cobbald	5 Spohn Lane	Buffalo	NY	14215	7164342516	tcobbald0@bravesites.c
17	357169932973	Twitterworks	089 Tennessee Lane	San Ant...	TX	78291	2107795695	ebarca3@wisc.edu
18	357949593026	Jerrom	1 Ryan Avenue	Rockford	IL	61110	8158299254	djerromd@g.co

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\schin9 (69) | SP20_CIS365_30292_TEAM16 | 00:00:00 | 32 rows

Image 2 of 3

milestonethree_qu...ASUAD\schin9 (68))*

```
/* SHOWS ALL TUPLES FOR PROPERTY TABLE */
SELECT * FROM PROPERTY;
```

100 %

Results | Messages

	PropertyID	PName	PAddress	PCity	PState	PZip	PBedroomNo	PBathroomNo	PRoofType	PExteriorType	P
1	110668642690	Aurora Heights	397 Wagon St. Lebanon	Palm Beach	FL	33411	3	2	Tile	Brick	1
2	110963644282	Frux	7734 Griffin Ave.	Palm Beach	FL	33412	2	1	Slate	Brick	8
3	111701198556	NULL	362 Colonial Rd	Palm Beach	FL	33411	4	2	Solar	Wood	1
4	111899721992	The Oracle	9655 Kingston Lane	Palm Beach	FL	33412	2	2	Solar	Stone	9
5	112009157934	La Grande Maison	824 Sky Way Pne	Palm Beach	FL	33412	3	2	Shingle	Wood	1
6	112520538605	FloridaCalibre	4924 Pine Street Roanoke	Palm Beach	FL	33412	4	4	Shingle	Brick	2
7	112801684917	Temple Palace	7895 East White Road	Palm Beach	FL	33411	3	2	Slate	Wood	1
8	113456788989	Envision Hills	2070 Reston Cir	Palm Beach	FL	33411	2	2	Green Roof	Wood	1
9	114110153592	Niyama	8935 Okeechobee Rd	Palm Beach	FL	33412	3	3	Tile	Wood	1
10	114456785945	NULL	36 Lancaster Ave.Deltona	Palm Beach	FL	33412	5	2	Tile	Stone	2
11	114654577224	NULL	656 Birch Hill Ave.	Palm Beach	FL	33411	5	3	Tile	Wood	2
12	114907263829	Greenwood Estate	6611 Lytle Ct	Palm Beach	FL	33412	3	2	Shingle	Brick	1
13	114942263294	Floridaverse	7642 Foster Court	Palm Beach	FL	33412	2	1	Green Roof	Wood	9
14	115201831281	NULL	324 Bunker Ranch Rd	Palm Beach	FL	33412	5	3	Slate	Wood	2
15	115369762538	BeachWay	956 Manchester Drive	Palm Beach	FL	33411	3	2	Slate	Wood	1
16	115619751617	NULL	7276 Walt Whitman Lane	Palm Beach	FL	33411	5	3	Shingle	Stucco	2
17	116506187506	MiniPalais	8826 Wendy Ln SWest ...	Palm Beach	FL	33411	3	2	Tile	Wood	1
18	116590827911	FloridaBackPack	711 Forest Club Dr	Palm Beach	FL	33411	2	1	Slate	Wood	8
19	117470165907	Fiostrict	46 N. Valley View St.	Palm Beach	FL	33411	3	2	Slate	Stucco	1
20	117917310741	NULL	10342 Fox Trail Rd S	Palm Beach	FL	33411	5	2	Slate	Stone	2
21	118306051619	Florida Estate	8935 Okeechobee Rd	Palm Beach	FL	33412	5	3	Shingle	Brick	3

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\schin9 (68) | SP20_CIS365_30292_TEAM16 | 00:00:00 | 30 rows

Image 3 of 3

Milestone4queries...ASUAD\schin9 (69))* | milestonefourqueri...ASUAD\schin9 (55))*

```
SELECT *
  FROM PROPERTY;

insert into Client
    values (254312897641, 'Quarry Inc' , '872 Alvarado', 'Tempe', 'AZ', 85281 ,'4809124672', 'QuarryInc@gmail.com','Corpo

insert into Property
    values  (125498065481, 'Arcadia Village', '524 Bowers Street', 'Palm Beach','FL', 33411 ,4, 2,'Tile', 'Wood', 1547, 2
```

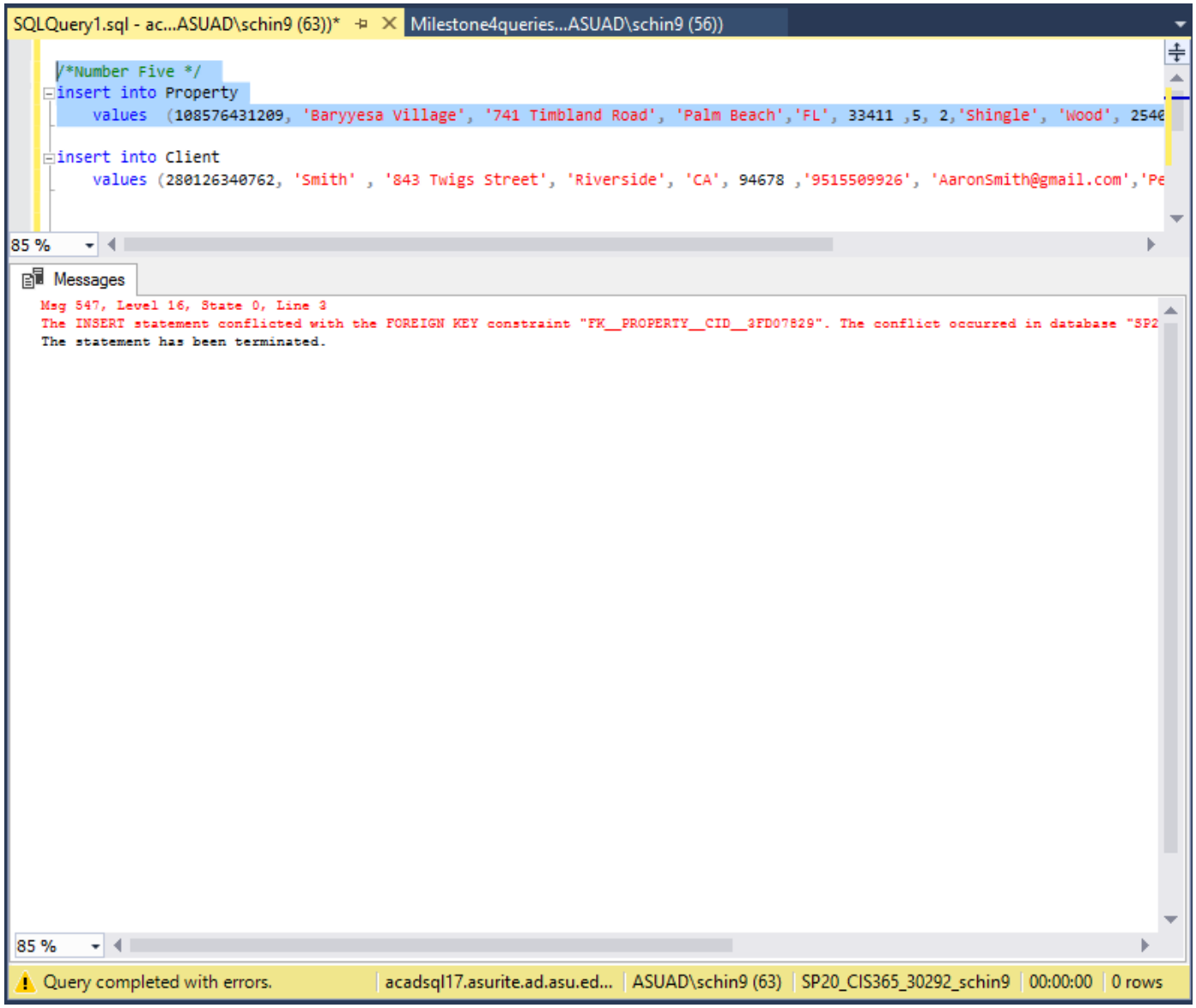
85 %

Results | Messages

	PropertyID	PName	PAddress	PCity	PState	PZip	PBedroomNo	PBathroomNo	PF
13	114942263294	Floridaverse	7642 Foster Court	Palm Beach	FL	33412	2	1	Gr
14	115201831281	NULL	324 Bunker Ranch Rd	Palm Beach	FL	33412	5	3	Sla
15	115369762538	BeachWay	956 Manchester Drive	Palm Beach	FL	33411	3	2	Sla
16	115619751617	NULL	7276 Walt Whitman Lane	Palm Beach	FL	33411	5	3	Sh
17	116506187506	MiniPalais	8826 Wendy Ln SWest Palm Beach	Palm Beach	FL	33411	3	2	Til
18	116590827911	FloridaBackPack	711 Forest Club Dr	Palm Beach	FL	33411	2	1	Sla
19	117470165907	Fiostrict	46 N. Valley View St.	Palm Beach	FL	33411	3	2	Sla
20	117917310741	NULL	10342 Fox Trail Rd S	Palm Beach	FL	33411	5	2	Sla
21	118306051619	Florida Estate	8935 Okeechobee Rd	Palm Beach	FL	33412	5	3	Sh
22	118398541900	Homes Pointe	9014 Sussex Ave.	Palm Beach	FL	33412	4	2	Sh
23	118407919297	Falman Heights	223 Galvin St. Atamonte Springs	Palm Beach	FL	33412	4	2	Til
24	118644679159	NULL	6 86 Helen Rd.	Palm Beach	FL	33411	5	2	Sh
25	118997219928	Adobe	89 Poco Mas Drive	Palm Beach	FL	33412	3	2	Sh
26	119011870720	Le Petite Chambre	870 Oldham Way	Palm Beach	FL	33412	4	2	Til
27	119343234788	EastWoods Villa...	31 Joy Ridge Court	Palm Beach	FL	33412	2	1	Til
28	119607203347	Noble Estates	8437 Butler Greenwood Dr	Palm Beach	FL	33411	5	3	Sla
29	119910146670	EcoStay	806 Lido Cir West	Palm Beach	FL	33411	4	2	Sh
30	125498065481	Arcadia Village	524 Bowers Street	Palm Beach	FL	33411	4	2	Til
31	160310023288	VineWood	9845 Bellevue Street	Palm Beach	FL	33411	2	1	Sh

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\schin9 (69) | SP20_CIS365_30292_TEAM16 | 00:00:00 | 31 rows

5. Two similar INSERT statements (#4) executed together in the opposite order should *fail*.



6. Adding a new employee to complete an existing service should *succeed*.

Image 1 of 3

SQLQuery3.sql - ac...ASUAD\schin9 (52))* | milestonefourqueri...SUAD\schin9 (147))* | SQLQuery2.sql - ac...ASUAD\schin9 (69))*

```
SELECT *
  FROM EMPLOYEESERVICEVISIT;
```

85 %

Results | Messages

	VisitNo	EID	SID
1	110000000001	25061470070	10000000026
2	110000000001	58831461312	10000000007
3	110000000002	799635302453	10000000029
4	110000000002	845724229693	10000000030
5	110000000003	110833031276	10000000014
6	110000000003	74757434885	10000000012
7	110000000004	165941127521	10000000015
8	110000000004	225353730378	10000000000
9	110000000005	264698979946	10000000018
10	110000000005	332108469901	10000000003
11	110000000006	386554849807	10000000004
12	110000000006	459881896308	10000000024
13	110000000007	647123698494	10000000006
14	110000000007	786002859575	10000000017
15	110000000008	862696682857	10000000022
16	110000000008	954093009611	10000000002
17	110000000009	811480423384	10000000008
18	110000000009	847690350105	10000000020
19	110000000010	25061470070	10000000026
20	110000000010	903799201576	10000000011
21	110000000011	58831461312	10000000007
22	110000000011	74757434885	10000000012
23	110000000012	110833031276	10000000014
24	110000000012	165941127521	10000000015

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\schin9 (52) | SP20_CIS365_30292_TEAM16 | 00:00:00 | 60 rows

Image 2 of 3

SQLQuery2.sql - a...UAD\haoyuanh (56))* | SQLQuery1.sql - a...UAD\haoyuanh (64))*

```sql
/*Existing Service*/
select * from SERVICE
    where SID = 10000000012 ;
```

93 %

Results | Messages

	SID	SDescription	SRate
1	10000000012	Property Marketing	1000.00

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\haoyuanh (56) | SP20_CIS365_30292_TEAM16 | 00:00:00 | 1 rows

Image 3 of 3

SQLQuery3.sql - ac...ASUAD\schin9 (52))* | milestonefourqueri...SUAD\schin9 (147))* | SQLQuery2.sql - ac...ASUAD\schin9 (69))*

```
FROM EMPLOYEESERVICEVISIT;

/*Basic Query to show the EID,SID, and VisitNo in the EMPLOYEESERVICETABLE */
SELECT EID,SID, VisitNo
  FROM EMPLOYEESERVICEVISIT
   WHERE VisitNo = '110000000031 '
   AND EID = '845724229694'
   AND SID = '10000000012';
```

Results | Messages

	EID	SID	VisitNo
1	845724229694	10000000012	110000000031

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\schin9 (52) | SP20_CIS365_30292_TEAM16 | 00:00:00 | 1 rows

7. Construct preliminary tests to show that your database design works. Select tests that you know will make your design fail where it should fail.

SQLQuery1.sql - ac...ASUAD\schin9 (63))* | Milestone4queries...ASUAD\schin9 (56))

```
/*Number Seven*/
/* Composite Key is not Unique, repeated EID,  therefore test fails  */
insert into EMPLOYEESERVICEVISIT values(110000000032 , 074771536235 , 10000000019)
```

85 %

Messages

```
Msg 547, Level 16, State 0, Line 20
The INSERT statement conflicted with the FOREIGN KEY constraint "FK__EMPLOYEES__Visit__5006DFF2". The conflict occurred in database "
The statement has been terminated.
```

85 %

Query completed with errors. | acadsql17.asurite.ad.asu.ed... | ASUAD\schin9 (63) | SP20_CIS365_30292_schin9 | 00:00:00 | 0 rows

8 Construct preliminary tests to show that your database design works. Select tests that you know will make your design fail where it should fail.

SQLQuery1.sql - ac...ASUAD\schin9 (63))* | Milestone4queries...ASUAD\schin9 (56))

```
/*Number Seven*/
/* Composite Key is not Unique, repeated EID,  therefore test fails  */
insert into EMPLOYEESERVICEVISIT values(110000000032 , 074771536235 , 10000000019)

/*Number Eight*/
/* fail insert a new client since no value for start date */
insert into CLIENT values(288921451378, 'Lunar Inc', '2855 Perry Way' , 'San Jose', 'CA', 94538,4089458124, 'LunarInc@cisc
```

85 %

Messages

```
Msg 241, Level 16, State 1, Line 24
Conversion failed when converting date and/or time from character string.
```

85 %

Query completed with errors. | acadsql17.asurite.ad.asu.ed... | ASUAD\schin9 (63) | SP20_CIS365_30292_schin9 | 00:00:00 | 0 rows

9 Construct preliminary tests to show that your database design works. Select tests that you know will make your design fail where it should fail.

SQLQuery1.sql - ac...ASUAD\schin9 (63))* | Milestone4queries...ASUAD\schin9 (56))*

```sql
/*Number Nine*/
/* fail to insert a visit for a client that is not in the database*/
/* Verifies foreign key constraint on visit CID*/

insert into VISIT values(110000000032,100000000041, 897632901234 , '02/25/2019', '02/25/2019', '04/25/2019');
```

85 %

Messages

```
Msg 547, Level 16, State 0, Line 298
The INSERT statement conflicted with the FOREIGN KEY constraint "FK__VISIT__CID__42ACE4D4". The conflict occurred in database "SP20_C
The statement has been terminated.
```

85 %

Query completed with errors. | acadsql17.asurite.ad.asu.ed... | ASUAD\schin9 (56) | SP20_CIS365_30292_schin9 | 00:00:00 | 0 rows

10 Construct preliminary tests to show that your database design works. Select tests that you know will make your design fail where it should fail.

SQLQuery1.sql - ac...ASUAD\schin9 (63))* | Milestone4queries...ASUAD\schin9 (56))*

```
/*Number Nine*/
/* fail to insert a visit for a client that is not in the database*/
/* Verifies foreign key constraint on visit CID*/

insert into VISIT values(110000000032,100000000041, 897632901234 , '02/25/2019', '02/25/2019', '04/25/2019');



/*Number TEN*/
/*Adding a new client without email should fail.*/

Insert into CLIENT values(311245789012, 'Ngo', '577 Montague' , 'Irvine', 'CA', '98723',4089928723, NULL, 'Corporation', '
```

85 %

Messages

```
Msg 515, Level 16, State 2, Line 305
Cannot insert the value NULL into column 'CEmail', table 'SP20_CIS365_30292_schin9.dbo.CLIENT'; column does not allow nulls. INSERT f
The statement has been terminated.
```

85 %

Query completed with errors. | acadsql17.asurite.ad.asu.ed... | ASUAD\schin9 (56) | SP20_CIS365_30292_schin9 | 00:00:00 | 0 rows

Advanced Queries

1. Group by / Having

SQLQuery3.sql - a...UAD\haoyuanh (61))* | SQLQuery2.sql - a...UAD\haoyuanh (56))* | SQLQuery1.sql - a...UAD\haoyuanh (64))*

```sql
/*Advanced Q1  Find the number of Clients in each state*/
select CState 'State', count(CState) 'Number of Clients in each State more than 1'
from CLIENT
group by CState
having count(CState) > 1;
```

93 %

Results | Messages

	State	Number of Clients in each State more than 1
1	CA	2
2	FL	4
3	IL	3
4	NY	2
5	OH	3
6	SC	2
7	TX	6

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\haoyuanh (61) | SP20_CIS365_30292_TEAM16 | 00:00:00 | 7 rows

2. Group by / Having

SQLQuery1.sql - ac...ASUAD\schin9 (63))* | Milestone4queries...ASUAD\schin9 (56))*

```sql
ORDER BY CState;


/*Number Two */
/* Employees residing in the same states as a client */
SELECT DISTINCT EFirstName "Employee First Name", ELastName "Employee Last Name", EState "Employee State",
CState "Client State"
   FROM EMPLOYEE
     JOIN CLIENT
     ON EState=CState
   GROUP BY EFirstName, ELastName, EState, CState
      HAVING EState = CState
ORDER BY CState;
```

35 %

Results | Messages

	Employee First Name	Employee Last Name	Employee State	Client State
1	Ailene	Potter	FL	FL
2	Alene	Polkinghorne	FL	FL
3	Andee	Adney	FL	FL
4	Annalise	Emanson	FL	FL
5	Barnie	Antwis	FL	FL
6	Billi	Elven	FL	FL
7	Brock	Yoseloff	FL	FL
8	Caz	Cheverell	FL	FL
9	Dionysus	Siddeley	FL	FL
10	Emilia	Assaf	FL	FL
11	Flora	Barizeret	FL	FL
12	Garvin	Vasyukhin	FL	FL
13	Geno	Le Clercq	FL	FL
14	Ginger	Bergstrand	FL	FL
15	Hanny	Fluger	FL	FL
16	Harlin	Goodridge	FL	FL
17	Hillier	Ewells	FL	FL
18	Inglebert	Flowerden	FL	FL

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\schin9 (56) | SP20_CIS365_30292_schin9 | 00:00:00 | 30 rows

3. Group by / Having

SQLQuery1.sql - ac...ASUAD\schin9 (63))* | Milestone4queries...ASUAD\schin9 (56))*

```sql
/*Number Three */
/*Test Total charge for each visit where there are multiple services performed.*/
Select DISTINCT ESV.VisitNo, sum(AddFeeAmount)+sum(SRate) AS TotalCharge
From VisitAddFee VAF
Join EmployeeServiceVisit ESV on VAF.VisitNo = ESV. VisitNo
Join Service S on ESV.SID = S.SID
Where ESV.VisitNo in
 (Select ESV.VisitNo
from EmployeeServiceVisit ESV
    left join Service S on S.SID = ESV.SID
        Group by VisitNo
            Having Count(ESV.SID)>1)
Group by ESV.VisitNo;
```

85 %

Results | Messages

	VisitNo	TotalCharge
1	110000000001	689.18
2	110000000002	1588.18
3	110000000003	1446.38
4	110000000005	812.78
5	110000000006	551.96
6	110000000008	1099.22
7	110000000009	5976.12
8	110000000011	1469.02
9	110000000013	1120.12
10	110000000014	1800.60
11	110000000015	552.70
12	110000000019	1210.70
13	110000000020	688.68
14	110000000021	2101.42
15	110000000022	2568.90
16	110000000023	1826.32
17	110000000024	586.20
18	110000000025	1675.22

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\schin9 (56) | SP20_CIS365_30292_schin9 | 00:00:00 | 19 rows

4. Nested Queries

SQLQuery1.sql - ac...ASUAD\scui12 (87))*

```sql
/* Test Total charge for each visit where there are multiple services performed.*/
Select DISTINCT ESV.VisitNo, sum(AddFeeAmount)+sum(SRate) AS TotalCharge
    From VisitAddFee VAF
    Join EmployeeServiceVisit ESV on VAF.VisitNo = ESV. VisitNo
    Join Service S on ESV.SID = S.SID
        Where ESV.VisitNo in
            (Select ESV.VisitNo
                from EmployeeServiceVisit ESV
                    left join Service S on S.SID = ESV.SID
                        Group by VisitNo
                            Having Count(ESV.SID)>1)
    Group by ESV.VisitNo;
```

100 %

Results | Messages

	VisitNo	TotalCharge
1	110000000001	689.18
2	110000000002	1588.18
3	110000000003	1446.38
4	110000000005	812.78
5	110000000006	551.96
6	110000000008	1099.22
7	110000000009	5976.12
8	110000000011	1469.02
9	110000000013	1120.12
10	110000000014	1800.60
11	110000000015	552.70

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\scui12 (87) | SP20_CIS365_30292_scui12 | 00:00:00 | 19 rows

5. Nested Queries

SQLQuery1.sql - ac...ASUAD\scui12 (87))*

```sql
/*Client's desired information:
    A list of clients who have ordered pest control.*/

Select CName 'Clients who have ordered pest control'
    From Client
        Where CID IN
            (Select CID
                From VISIT
                    Where VisitNo IN
                    (Select VisitNo
                        From EmployeeServiceVisit
                            Where SID =
                                (Select SID
                                    From Service
                                        Where SDescription = 'Pest Control')))
```

100 %

Results | Messages

	Clients who have ordered pest control
1	Aylwin
2	Jerrom

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\scui12 (87) | SP20_CIS365_30292_scui12 | 00:00:00 | 2 rows

6. Nested Queries

SQLQuery3.sql - ac...SUAD\scui12 (122))*

```sql
/*Client's desired information:
12. Clients requiring multiple visits for a single service.*/
Select CName from CLIENT
    Where CID In
        (Select CID
            from VISIT
                Where VisitNo IN
                    (Select VisitNo
                        from EmployeeServiceVisit
                            Where SID in
                                (Select ESV.SID
                                    from Service S
                                        left join EmployeeServiceVisit ESV on S.SID = ESV.SID
                                            Group by ESV.sid
                                                Having Count(ESV.VisitNo)>1)))
```

100 %

Results | Messages

	CName
21	Raitt
22	Ziemke
23	Enrdigo
24	Blackmore
25	Talane
26	Kare
27	Photospa...
28	Clyant
29	Dabfeed
30	Ochiltree

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\scui12 (122) | SP20_CIS365_30292_scui12 | 00:00:00 | 30 rows

7. Views

SQLQuery1.sql - ac...ASUAD\schin9 (63))* | Milestone4queries...ASUAD\schin9 (56))*

```sql
create view EmployeeVisited as
select E.EFirstName "Employee First Name" , E. ELastName "Employee Last Name" ,P. PName "Property Name" ,P.PAddress "Prope
from PROPERTY P join VISIT V
on P.PropertyID=V.PropertyID
join EMPLOYEESERVICEVISIT ESV
on V.VisitNo=ESV.VisitNo
join EMPLOYEE E
on E.EID=ESV.EID;

/* Shows all employees and visited properties */
Select *
  FROM EmployeeVisited;
```

85 %

Results | Messages

	Employee First Name	Employee Last Name	Property Name	Property Address
1	Reynard	Munnis	Le Petite Chambre	870 Oldham Way
2	Ailene	Potter	Le Petite Chambre	870 Oldham Way
3	Raf	Shillaber	MiniPalais	8826 Wendy Ln SWest Palm Beach
4	Alene	Polkinghorne	MiniPalais	8826 Wendy Ln SWest Palm Beach
5	Lynna	Brizland	Florida Estate	8935 Okeechobee Rd
6	Billi	Elven	Florida Estate	8935 Okeechobee Rd
7	Rockwell	Seakings	EcoStay	806 Lido Cir West
8	Geno	Le Clercq	EcoStay	806 Lido Cir West
9	Sheelagh	Mordaunt	La Grande Maison	824 Sky Way Pne
10	Hanny	Fluger	La Grande Maison	824 Sky Way Pne
11	Willis	Moir	Noble Estates	8437 Butler Greenwood Dr
12	Hillier	Ewells	Noble Estates	8437 Butler Greenwood Dr
13	Robby	Follin	Greenwood Estate	6611 Lytle Ct
14	Jess	Klouz	Greenwood Estate	6611 Lytle Ct
15	Mitchael	Pinson	FloridaBackPack	711 Forest Club Dr
16	Warner	Thacke	FloridaBackPack	711 Forest Club Dr
17	Harlin	Goodridge	NULL	324 Bunker Ranch Rd
18	Inglebert	Flowerden	NULL	324 Bunker Ranch Rd

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\schin9 (56) | SP20_CIS365_30292_schin9 | 00:00:00 | 60 rows

8. Views

SQLQuery1.sql - ac...ASUAD\schin9 (63))* | Milestone4queries...ASUAD\schin9 (56))*

```sql
/*Number Eight */
/*Display the total fee for each visit*/
create view costofvisit as
Select DISTINCT ESV.VisitNo, sum(AddFeeAmount)+sum(SRate) AS TotalCharge from
VisitAddFee VAF Join EmployeeServiceVisit ESV on VAF.VisitNo = ESV. VisitNo
Join Service S on ESV.SID = S.SID
Group by ESV.VisitNo;

/*Shows the total charge for each Visit Number */
Select *
  FROM costofvisit;
```

85 %

Results | Messages

	VisitNo	TotalCharge
1	110000000001	689.18
2	110000000002	1588.18
3	110000000003	1446.38
4	110000000005	812.78
5	110000000006	551.96
6	110000000008	1099.22
7	110000000009	5976.12
8	110000000011	1469.02
9	110000000013	1120.12
10	110000000014	1800.60
11	110000000015	552.70
12	110000000019	1210.70
13	110000000020	688.68
14	110000000021	2101.42
15	110000000022	2568.90
16	110000000023	1826.32
17	110000000024	586.20
18	110000000025	1675.22

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\schin9 (56) | SP20_CIS365_30292_schin9 | 00:00:00 | 19 rows

9. Views

SQLQuery1.sql - ac...ASUAD\schin9 (63))* | Milestone4queries...ASUAD\schin9 (56))*

```sql
/*Number Nine */
/* Display the clients names and years of service for each client*/
create view yearsofservice as
select C.CName "Client's' Name", datediff(year,V.VDate,getdate()) 'years of service'
from Client C join VISIT V
on C.CID=V.CID;

/*Client's Name and the Years of Services */
select *
  FROM yearsofservice;
```

85 %

Results | Messages

	Client's' Name	years of service
1	Cobbald	4
2	Kenaway	2
3	Clyant	1
4	Ochiltree	1
5	Aylwin	3
6	Popeley	3
7	Rosenthal	1
8	Raden	2
9	Raitt	1
10	Ziemke	3
11	Blackmore	2
12	Toretta	4
13	Enrdigo	4
14	Jerrom	5
15	Jindrich	1
16	Zoomlounge	3
17	Eadel	3
18	Voonder	4

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\schin9 (56) | SP20_CIS365_30292_schin9 | 00:00:00 | 30 rows

Transactions

Before

SQLQuery2.sql - a...AD\haoyuanh (131))*

```sql
begin transaction

insert into CLIENT
values(123456789012, 'Hank', '15 Wall Street', 'Tempe', 'AZ', 85281, 4801231234, 'hank@hhy.com', 'Person', '3/24/2020');
insert into CTYPEPERSON
values(123456789012, '3567177685829190');
insert into Property
values(123123123123, 'Tempe Center', '15 Wall Street', 'Tempe','AZ', 85281 ,4, 2,'Tile', 'Wood', 1547, 2002,123456789012);

select *
from CTYPEPERSON
where CTPersonID = '123456789012';
select *
from CLIENT
where CID = '123456789012';
select *
from PROPERTY
where PropertyID = '123123123123';

rollback;  ---execute only if correction is required
commit; ------execute only if entry is correct
```

93 %

Results | Messages

CTPersonID	PCreditCardNo

CID	CName	CAddress	CCity	CState	CZip	CPhone	CEmail	CType	CStartDate

PropertyID	PName	PAddress	PCity	PState	PZip	PBedroomNo	PBathroomNo	PRoofType	PExteriorType	PSquareF	PYearBuilt	CID

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\haoyuanh (131) | SP20_CIS365_30292_TEAM16 | 00:00:00 | 0 rows

Ln 10 Col 1 Ch 1

After

SQLQuery2.sql - a...AD\haoyuanh (131))*

```sql
begin transaction

insert into CLIENT
values(123456789012, 'Hank', '15 Wall Street', 'Tempe', 'AZ', 85281, 4801231234, 'hank@hhy.com', 'Person', '3/24/2020');
insert into CTYPEPERSON
values(123456789012, '3567177685829190');
insert into Property
values(123123123123, 'Tempe Center', '15 Wall Street', 'Tempe','AZ', 85281 ,4, 2,'Tile', 'Wood', 1547, 2002,123456789012);

select *
from CTYPEPERSON
where CTPersonID = '123456789012';
select *
from CLIENT
where CID = '123456789012';
select *
from PROPERTY
where PropertyID = '123123123123';

rollback;  ---execute only if correction is required
commit; ------execute only if entry is correct
```

93 %

Results | Messages

	CTPersonID	PCreditCardNo
1	123456789012	3567177685829190

	CID	CName	CAddress	CCity	CState	CZip	CPhone	CEmail	CType	CStartDate
1	123456789012	Hank	15 Wall Street	Tempe	AZ	85281	4801231234	hank@hhy.com	Person	2020-03-24

	PropertyID	PName	PAddress	PCity	PState	PZip	PBedroomNo	PBathroomNo	PRoofType	PExteriorType	PSquareF	PYearBuilt	CID
1	123123123123	Tempe Center	15 Wall Street	Tempe	AZ	85281	4	2	Tile	Wood	1547	2002	123456789012

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\haoyuanh (131) | SP20_CIS365_30292_TEAM16 | 00:00:00 | 3 rows

Ln 20 Col 1 Ch 1

Before

SQLQuery1.sql - aca...SUAD\lfflewel (77)*

```sql
/* Lindsey Flewelling - Transaction 2. A. Transaction code (from BEGIN to COMMIT)
Transaction: When adding a visit request (VisitNo, CID, PropertyID, VDate, SDate, VEndDate), also include what is requested in the service request table (VistiNo, EID, SID).
Note: Vist request will require 1 employee and 1 service, is scheduled to begin tomorrow and visit will be completed in one week*/

Begin Transaction;

Insert into VISIT
    values(110000000033,357076757958,119011870720, getdate(),(getdate()+1), (getdate()+7));

Insert into EMPLOYEESERVICEVISIT
    values(110000000033 , 025061470070 , 10000000026);

Select *
    From VISIT
        Where VisitNo = 110000000033;

Select *
    From EMPLOYEESERVICEVISIT
        Where VisitNo = 110000000033;

Rollback; ---execute only if correction is required
Commit; ---execute only if entry is correct
```

100 %

Results | Messages

VisitNo	CID	PropertyID	VDate	SDate	VEndDate

VisitNo	EID	SID

Query executed successfully. acadsql17.asurite.ad.asu.ed... | ASUAD\lfflewel (77) | SP20_CIS365_30292_TEAM16 | 00:00:00 | 0 rows

After

SQLQuery1.sql - aca...SUAD\lfflewel (77))*

```sql
/* Lindsey Flewelling - Transaction 2. A. Transaction code (from BEGIN to COMMIT)
Transaction: When adding a visit request (VisitNo, CID, PropertyID, VDate, SDate, VEndDate), also include what is requested in the service request table (VistiNo, EID, SID).
Note: Vist request will require 1 employee and 1 service, is scheduled to begin tomorrow and visit will be completed in one week*/

Begin Transaction;

Insert into VISIT
    values(110000000033,357076757958,119011870720, getdate(),(getdate()+1), (getdate()+7));

Insert into EMPLOYEESERVICEVISIT
    values(110000000033 , 025061470070 , 10000000026);

Select *
    From VISIT
        Where VisitNo = 110000000033;

Select *
    From EMPLOYEESERVICEVISIT
        Where VisitNo = 110000000033;

Rollback; ---execute only if correction is required
Commit; ---execute only if entry is correct
```

100 %

Results | Messages

	VisitNo	CID	PropertyID	VDate	SDate	VEndDate
1	110000000033	357076757958	119011870720	2020-04-25	2020-04-26	2020-05-02

	VisitNo	EID	SID
1	110000000033	25061470070	10000000026

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\lfflewel (77) | SP20_CIS365_30292_TEAM16 | 00:00:00 | 2 rows

Trigger

Before

SQLQuery1.sql - ac...ASUAD\scui12 (60))*

```sql
/*Test before create the trigger*/
Select ESV.VisitNo, E.ESpecial, S.SDescription from EMPLOYEESERVICEVISIT ESV
            Join EMPLOYEE E on ESV.EID = E.EID
                Join SERVICE S on ESV.SID = S.SID
    Where VisitNo = 110000000060;
```

100 %

Results | Messages

VisitNo	ESpecial	SDescription

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\scui12 (60) | SP20_CIS365_30292_scui12 | 00:00:00 | 0 rows

After

SQLQuery1.sql - ac...ASUAD\scui12 (60))*

```sql
/*Create Trigger to automatically assign an employee who has the required specialization for each new visit data*/
Create Trigger AssignEmployee on VISIT
After Insert as
Insert into EMPLOYEESERVICEVISIT (VisitNo, EID, SID)
    Values((Select VisitNo
                From Inserted),
                    (Select EID
                        From EMPLOYEE
                            Where EID =
                                (Select TOP 1 EID
                                    from EMPLOYEE
                                        Where ESpecial =
                                            (Select TOP 1 SDescription from SERVICE))),
                        (Select SID
                            From SERVICE
                                Where SDescription =
                                    (Select TOP 1 SDescription from SERVICE)));

Begin Transaction;
Insert into VISIT values (110000000060, 353540235487, 160310023288, '04/25/2020', '04/25/2020', '05/04/2020');

Select ESV.VisitNo, E.ESpecial, S.SDescription from EMPLOYEESERVICEVISIT ESV /*Test after create the trigger and insert the data*/
            Join EMPLOYEE E on ESV.EID = E.EID
                Join SERVICE S on ESV.SID = S.SID
    Where VisitNo = 110000000060;
```

100 %

Results | Messages

	VisitNo	ESpecial	SDescription
1	110000000060	Housekeeping	Housekeeping

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\scui12 (60) | SP20_CIS365_30292_scui12 | 00:00:00 | 1 rows

Stored Procedure

Creation of procedure and insertion of new record value 110000000031

SQLQuery5.sql - ac...ASUAD\schin9 (66))* | SQLQuery1.sql - ac...ASUAD\schin9 (64))*

```sql
/*Create Procedure */
Create Procedure CompletedService
@VisitNo char(12)
As
Insert Into ServiceCompletionLog(VisitNo, SDate, NumberOfDays, PropertyID, Season, EFirstName, ESpecial)
Values(@VisitNo,
    (Select V.SDate From VISIT V
        Where @VisitNo = V.VisitNo),
          (Select DATEDIFF(Day, SDate, VEndDate) As 'Number Of Days Worked' From VISIT V
             Where @VisitNo = V.VisitNo),
               (Select PropertyID From VISIT V
                  Where @VisitNo = V.VisitNo),
                    (Select Season From VISIT V
                       Where @VisitNo = V.VisitNo),
                        (Select E.EFirstName From EMPLOYEE E, EMPLOYEESERVICEVISIT ESV, VISIT V
                           Where E.EID = ESV.EID and ESV.VisitNo = V.VisitNo and @VisitNo = V.VisitNo),
                              (Select E.ESpecial From EMPLOYEE E, EMPLOYEESERVICEVISIT ESV, VISIT V
                                 where E.EID = ESV.EID And ESV.VISITNo = V.VisitNo and @VisitNo = V.VisitNo));


/* Show the new value in CompletedService */
EXEC CompletedService '110000000031';

Select *
  From ServiceCompletionLog;
```

85 %

Results | Messages

	ServiceNo	VisitNo	SDate	NumberOfDays	PropertyID	Season	EFirstName	ESpecial
1	100	110000000031	2018-12-18	31	160310023288	Winter	Alene	Routine Inspection

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\schin9 (66) | SP20_CIS365_30292_schin9 | 00:00:00 | 1 rows

Shows all attributes in the Service Completion log Table

SQLQuery5.sql - ac...ASUAD\schin9 (66))* | SQLQuery1.sql - ac...ASUAD\schin9 (64))*

```sql
/* Table for ServiceCompletionLog */
Create Table ServiceCompletionLog(
ServiceNo int identity (100,10) NOT NULL Primary Key,
VisitNo char(12) Not Null Foreign Key References Visit(VisitNo),
SDate date,
NumberOfDays int,
PropertyID char(12) Foreign Key References Property(PropertyID),
Season varchar(20),
EFirstName varchar(15),
ESpecial varchar(40));

/*Show all values for the Service Completion Log */
Select * From ServiceCompletionLog


/*Create Procedure */
Create Procedure CompletedService
@VisitNo char(12)
As
Insert Into ServiceCompletionLog(VisitNo, SDate, NumberOfDays, PropertyID, Season, EFirstName, ESpecial)
Values(@VisitNo,
    (Select V.SDate From VISIT V
        Where @VisitNo = V.VisitNo),
          (Select DATEDIFF(Day, SDate, VEndDate) As 'Number Of Days Worked' From VISIT V
             Where @VisitNo = V.VisitNo),
```

85 %

Results | Messages

ServiceNo	VisitNo	SDate	NumberOfDays	PropertyID	Season	EFirstName	ESpecial

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\schin9 (66) | SP20_CIS365_30292_schin9 | 00:00:00 | 0 rows

Before

SQLQuery5.sql - ac...ASUAD\schin9 (66))* | SQLQuery1.sql - ac...ASUAD\schin9 (64))*

```sql
Select *
    From Visit;
```

85 %

Results | Messages

	VisitNo	CID	PropertyID	VDate	SDate	VEndDate	Season
6	110000000006	300887666216	119607203347	2017-11-21	2017-11-21	2018-01-20	Fall
7	110000000007	491732531713	114907263829	2019-01-22	2019-01-22	2019-03-23	Winter
8	110000000008	352966942563	116590827911	2018-07-11	2018-07-11	2018-09-09	Summer
9	110000000009	553026708434	115201831281	2019-10-12	2019-10-12	2019-12-11	Fall
10	110000000010	559576298989	111701198556	2017-06-09	2017-06-09	2017-08-08	June
11	110000000011	560222557009	114110153592	2018-07-04	2018-07-04	2018-09-02	Summer
12	110000000012	432408784716	117917310741	2016-04-23	2016-04-23	2016-06-22	Spring
13	110000000013	560221698167	118997219928	2016-12-17	2016-12-17	2017-02-15	Winter
14	110000000014	357949593026	113456788989	2015-12-18	2015-12-18	2016-02-16	Winter
15	110000000015	356399900918	114456785945	2019-11-19	2019-11-19	2020-01-18	Fall
16	110000000016	356633117549	112801684917	2017-11-20	2017-11-20	2018-01-19	Fall
17	110000000017	500235062152	111899721992	2017-03-18	2017-03-18	2017-05-17	Spring
18	110000000018	354085050542	110668642690	2016-11-09	2016-11-09	2017-01-08	Fall
19	110000000019	633110249405	119343234788	2019-10-05	2019-10-05	2019-12-04	Fall
20	110000000020	354409237289	115619751617	2016-05-05	2016-05-05	2016-07-04	Spring
21	110000000021	630455395535	110963644282	2016-10-21	2016-10-21	2016-12-20	Fall
22	110000000022	355153149696	118644679159	2019-04-21	2019-04-21	2019-06-20	Spring
23	110000000023	560223116918	114942263294	2020-02-11	2020-02-11	2020-04-11	Winter
24	110000000024	357169932973	117470165907	2015-05-22	2015-05-22	2015-07-21	Spring
25	110000000025	670903137727	118407919297	2015-12-17	2015-12-17	2016-02-15	Winter
26	110000000026	358260108799	115369762538	2015-06-24	2015-06-24	2015-08-23	Summer
27	110000000027	337941345118	112520538605	2016-05-22	2016-05-22	2016-09-22	Spring
28	110000000028	353453080593	114654577224	2018-08-21	2018-08-21	2018-11-21	Fall
29	110000000029	355516366510	118398541900	2017-09-21	2017-09-21	2017-12-21	Fall
30	110000000030	353540235487	160310023288	2018-11-21	2018-11-21	2019-01-21	Fall

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\schin9 (66) | SP20_CIS365_30292_schin9 | 00:00:00 | 30 rows

After

SQLQuery5.sql - ac...ASUAD\schin9 (66))* | SQLQuery1.sql - ac...ASUAD\schin9 (64))*

```
                    Where @VisitNo = V.VisitNo),
                      (Select Season From VISIT V
                         Where @VisitNo = V.VisitNo),
                          (Select E.EFirstName From EMPLOYEE E, EMPLOYEESERVICEVISIT ESV, VISIT V
                             Where E.EID = ESV.EID and ESV.VisitNo = V.VisitNo and @VisitNo = V.VisitNo),
                                (Select E.ESpecial From EMPLOYEE E, EMPLOYEESERVICEVISIT ESV, VISIT V
                                   where E.EID = ESV.EID And ESV.VISITNo = V.VisitNo and @VisitNo = V.VisitNo));


/* Show the new value in CompletedService */
EXEC CompletedService '110000000031';

Select *
  From ServiceCompletionLog;

/* Show value in the Visit Table */
Select *
   From VISit;
```

85 %

Results | Messages

	VisitNo	CID	PropertyID	VDate	SDate	VEndDate	Season
13	110000000013	560221698167	118997219928	2016-12-17	2016-12-17	2017-02-15	Winter
14	110000000014	357949593026	113456788989	2015-12-18	2015-12-18	2016-02-16	Winter
15	110000000015	356399900918	114456785945	2019-11-19	2019-11-19	2020-01-18	Fall
16	110000000016	356633117549	112801684917	2017-11-20	2017-11-20	2018-01-19	Fall
17	110000000017	500235062152	111899721992	2017-03-18	2017-03-18	2017-05-17	Spring
18	110000000018	354085050542	110668642690	2016-11-09	2016-11-09	2017-01-08	Fall
19	110000000019	633110249405	119343234788	2019-10-05	2019-10-05	2019-12-04	Fall
20	110000000020	354409237289	115619751617	2016-05-05	2016-05-05	2016-07-04	Spring
21	110000000021	630455395535	110963644282	2016-10-21	2016-10-21	2016-12-20	Fall
22	110000000022	355153149696	118644679159	2019-04-21	2019-04-21	2019-06-20	Spring
23	110000000023	560223116918	114942263294	2020-02-11	2020-02-11	2020-04-11	Winter
24	110000000024	357169932973	117470165907	2015-05-22	2015-05-22	2015-07-21	Spring
25	110000000025	670903137727	118407919297	2015-12-17	2015-12-17	2016-02-15	Winter
26	110000000026	358260108799	115369762538	2015-06-24	2015-06-24	2015-08-23	Summer
27	110000000027	337941345118	112520538605	2016-05-22	2016-05-22	2016-09-22	Spring
28	110000000028	353453080593	114654577224	2018-08-21	2018-08-21	2018-11-21	Fall
29	110000000029	355516366510	118398541900	2017-09-21	2017-09-21	2017-12-21	Fall
30	110000000030	353540235487	160310023288	2018-11-21	2018-11-21	2019-01-21	Fall
31	110000000031	353540235487	160310023288	2018-12-18	2018-12-18	2019-01-18	Winter

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\schin9 (66) | SP20_CIS365_30292_schin9 | 00:00:00 | 31 rows

Index and Query Plan

SQLQuery4.sql - a...UAD\haoyuanh (62))* | SQLQuery3.sql - a...UAD\haoyuanh (61))* | SQLQuery2.sql - a...UAD\haoyuanh (56))* | SQLQuery1.sql - a...UAD\haoyuanh (64))*

```sql
/*Index 1.(2) Identify the attributes (at least 2) that should have secondary indexes defined (cluster index is already created) to speed up the query
you will define in #3. Take a snapshot of the tables you will use (select * from each table and show the attributes and a few rows of data in each one).*/

select * from VISITADDFEE;
select * from VISIT;
```

93 %

Results | Messages | Execution plan

	VisitNo	AddFeeDescription	AddFeeAmount
1	110000000015	Repair	101.35
2	110000000022	Repair	109.92
3	110000000013	Repair	111.00
4	110000000014	Maintaince	112.31
5	110000000024	Maintaince	118.10
6	110000000013	Repair	119.06
7	110000000006	Maintaince	125.98
8	110000000022	Maintaince	138.49

	VisitNo	CID	PropertyID	VDate	SDate	VEndDate
1	110000000001	357076757958	119011870720	2016-02-25	2016-02-25	2016-04-25
2	110000000002	353868970222	116506187506	2018-05-31	2018-05-31	2018-07-30
3	110000000003	637120442929	118306051619	2019-05-09	2019-05-09	2019-07-08
4	110000000004	677105192081	119910146670	2019-04-27	2019-04-27	2019-06-26
5	110000000005	354279768015	112009157934	2017-08-01	2017-08-01	2017-09-30
6	110000000006	300887666216	119607203347	2017-11-21	2017-11-21	2018-01-20
7	110000000007	491732531713	114907263829	2019-01-22	2019-01-22	2019-03-23
8	110000000008	352966942563	116590827911	2018-07-11	2018-07-11	2018-09-09
9	110000000009	553026708434	115201831281	2019-10-12	2019-10-12	2019-12-11
10	110000000010	559576298989	111701198556	2017-06-09	2017-06-09	2017-08-08
11	110000000011	560222557009	114110153592	2018-07-04	2018-07-04	2018-09-02
12	110000000012	432408784716	117917310741	2016-04-23	2016-04-23	2016-06-22
13	110000000013	560221698167	118997219928	2016-12-17	2016-12-17	2017-02-15

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\haoyuanh (62) | SP20_CIS365_30292_TEAM16 | 00:00:00 | 60 rows

SQLQuery4.sql - a...UAD\haoyuanh (62))* | SQLQuery3.sql - a...UAD\haoyuanh (61))* | SQLQuery2.sql - a...UAD\haoyuanh (56))* | SQLQuery1.sql - a...UAD\haoyuanh (64))*

```sql
/*Index 2. (2) Write the SQL commands to create the secondary indexes for the 2 attributes identified in #1. Give reasons for each attribute selected (use comments).
 Take a snapshot of the SQL code for both indexes. */
create index AddFeeAmountIDX on VISITADDFEE(AddFeeAmount); ----Since we want to know AddFeeAmount that are more than 50, we want to execute this faster
create index VDateIDX on VISIT(VDate); -----Since we need to know the year of each visit, we want to execute this faster
```

93 %

Results | Messages | Execution plan

	VisitNo	AddFeeDescription	AddFeeAmount
1	110000000015	Repair	101.35
2	110000000022	Repair	109.92
3	110000000013	Repair	111.00
4	110000000014	Maintaince	112.31
5	110000000024	Maintaince	118.10
6	110000000013	Repair	119.06
7	110000000006	Maintaince	125.98
8	110000000022	Maintaince	138.49

	VisitNo	CID	PropertyID	VDate	SDate	VEndDate
1	110000000001	357076757958	119011870720	2016-02-25	2016-02-25	2016-04-25
2	110000000002	353868970222	116506187506	2018-05-31	2018-05-31	2018-07-30

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\haoyuanh (62) | SP20_CIS365_30292_TEAM16 | 00:00:00 | 60 rows

SQLQuery4.sql - a...UAD\haoyuanh (62))* | SQLQuery3.sql - a...UAD\haoyuanh (61))* | SQLQuery2.sql - a...UAD\haoyuanh (56))* | SQLQuery1.sql - a...UAD\haoyuanh (64))*

```sql
/*index 3. (2) Create an advanced join query and execute (use any multiple tables you wish).
 Show the query, the data results, the time to complete, and the query plan (take snapshots of each).
  The idea here is to create a query that will tax the computer resources - force the DBMS to use its resources.*/
set statistics time on;
select distinct V.VisitNo'Last year visits visitaddfee more than 50'
    from VISITADDFEE VAF join EMPLOYEESERVICEVISIT ESV
                            on VAF.VisitNo=ESV.VisitNo
                        join VISIT V
                            on ESV.VisitNo=V.VisitNo
where year(V.VDate)= year(getdate())-1
and AddFeeAmount > 50;
```

93 %

Results | Messages | Execution plan

	Last year visits visitaddfee more than 50
1	110000000003
2	110000000009
3	110000000015
4	110000000019
5	110000000022

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\haoyuanh (62) | SP20_CIS365_30292_TEAM16 | 00:00:00 | 5 rows

SQLQuery4.sql - a...UAD\haoyuanh (62))* | SQLQuery3.sql - a...UAD\haoyuanh (61))* | SQLQuery2.sql - a...UAD\haoyuanh (56))* | SQLQuery1.sql - a...UAD\haoyuanh (64))*

```sql
/*index 3. (2) Create an advanced join query and execute (use any multiple tables you wish).
 Show the query, the data results, the time to complete, and the query plan (take snapshots of each).
  The idea here is to create a query that will tax the computer resources - force the DBMS to use its resources.*/
set statistics time on;
select distinct V.VisitNo'Last year visits visitaddfee more than 50'
    from VISITADDFEE VAF join EMPLOYEESERVICEVISIT ESV
                            on VAF.VisitNo=ESV.VisitNo
                        join VISIT V
                            on ESV.VisitNo=V.VisitNo
where year(V.VDate)= year(getdate())-1
and AddFeeAmount > 50;
```

93 %

Results | Messages | Execution plan

```
SQL Server parse and compile time:
   CPU time = 0 ms, elapsed time = 0 ms.

 SQL Server Execution Times:
   CPU time = 0 ms,  elapsed time = 0 ms.
SQL Server parse and compile time:
   CPU time = 0 ms, elapsed time = 9 ms.

 SQL Server Execution Times:
   CPU time = 0 ms,  elapsed time = 0 ms.

(5 row(s) affected)

(1 row(s) affected)

 SQL Server Execution Times:
   CPU time = 15 ms,  elapsed time = 1 ms.
SQL Server parse and compile time:
   CPU time = 0 ms, elapsed time = 0 ms.

 SQL Server Execution Times:
   CPU time = 0 ms,  elapsed time = 0 ms.
```

93 %

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\haoyuanh (62) | SP20_CIS365_30292_TEAM16 | 00:00:00 | 5 rows

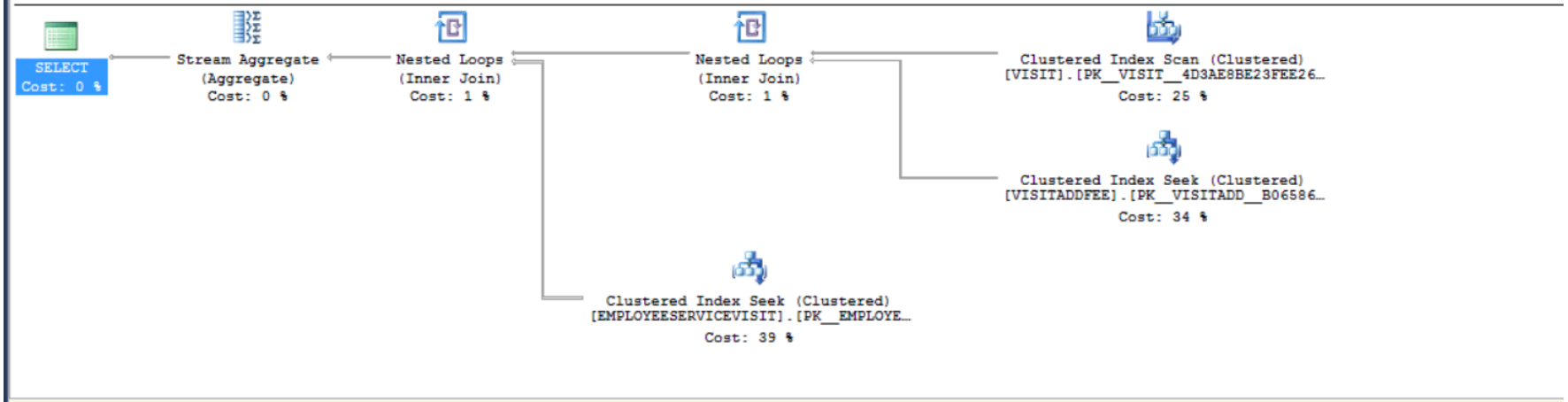
SQLQuery4.sql - a...UAD\haoyuanh (62))* | SQLQuery3.sql - a...UAD\haoyuanh (61))* | SQLQuery2.sql - a...UAD\haoyuanh (56))* | SQLQuery1.sql - a...UAD\haoyuanh (64))*

```sql
/*index 3. (2) Create an advanced join query and execute (use any multiple tables you wish).
 Show the query, the data results, the time to complete, and the query plan (take snapshots of each).
  The idea here is to create a query that will tax the computer resources - force the DBMS to use its resources.*/
set statistics time on;
select distinct V.VisitNo'Last year visits visitaddfee more than 50'
    from VISITADDFEE VAF join EMPLOYEESERVICEVISIT ESV
                            on VAF.VisitNo=ESV.VisitNo
                        join VISIT V
                            on ESV.VisitNo=V.VisitNo
where year(V.VDate)= year(getdate())-1
and AddFeeAmount > 50;
```

93 %

Results | Messages | Execution plan

Query 1: Query cost (relative to the batch): 100%
select distinct V.VisitNo'Last year visits visitaddfee more than 50' from VISITADDFEE VAF join EMPLOYEESERVICEVISIT ESV on VAF.VisitNo…



Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\haoyuanh (62) | SP20_CIS365_30292_TEAM16 | 00:00:00 | 5 rows

SQLQuery4.sql - a...UAD\haoyuanh (62))* | SQLQuery3.sql - a...UAD\haoyuanh (61))* | SQLQuery2.sql - a...UAD\haoyuanh (56))* | SQLQuery1.sql - a...UAD\haoyuanh (64))*

```sql
/*index 4. (2) Optimize & execute the query in #3. Show the query, the data results, the time to complete, and the query plan (take snapshots of each).*/
select V.VisitNo'Last year visits visitaddfee more than 50'
    from VISIT V
        where year(V.VDate)= year(getdate())-1
        and V.VisitNo in
            (select VisitNo
                from EMPLOYEESERVICEVISIT
                    where VisitNo in
                        (select VisitNo
                            from VISITADDFEE
                                where AddFeeAmount>50));
```

93 %

Results | Messages | Execution plan

	Last year visits visitaddfee more than 50
1	110000000003
2	110000000009
3	110000000015
4	110000000019
5	110000000022

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\haoyuanh (62) | SP20_CIS365_30292_TEAM16 | 00:00:00 | 5 rows

SQLQuery4.sql - a...UAD\haoyuanh (62))* | SQLQuery3.sql - a...UAD\haoyuanh (61))* | SQLQuery2.sql - a...UAD\haoyuanh (56))* | SQLQuery1.sql - a...UAD\haoyuanh (64))*

```sql
/*index 4. (2) Optimize & execute the query in #3. Show the query, the data results, the time to complete, and the query plan (take snapshots of each).*/
select V.VisitNo'Last year visits visitaddfee more than 50'
    from VISIT V
        where year(V.VDate)= year(getdate())-1
        and V.VisitNo in
            (select VisitNo
                from EMPLOYEESERVICEVISIT
                    where VisitNo in
                        (select VisitNo
                            from VISITADDFEE
                                where AddFeeAmount>50));
```

93 %

Results | Messages | Execution plan

```
SQL Server parse and compile time:
   CPU time = 0 ms, elapsed time = 0 ms.

 SQL Server Execution Times:
   CPU time = 0 ms,  elapsed time = 0 ms.
SQL Server parse and compile time:
   CPU time = 29 ms, elapsed time = 29 ms.

(5 row(s) affected)

(1 row(s) affected)

 SQL Server Execution Times:
   CPU time = 0 ms,  elapsed time = 0 ms.
SQL Server parse and compile time:
   CPU time = 0 ms, elapsed time = 0 ms.

 SQL Server Execution Times:
   CPU time = 0 ms,  elapsed time = 0 ms.
```

93 %

Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\haoyuanh (62) | SP20_CIS365_30292_TEAM16 | 00:00:00 | 5 rows

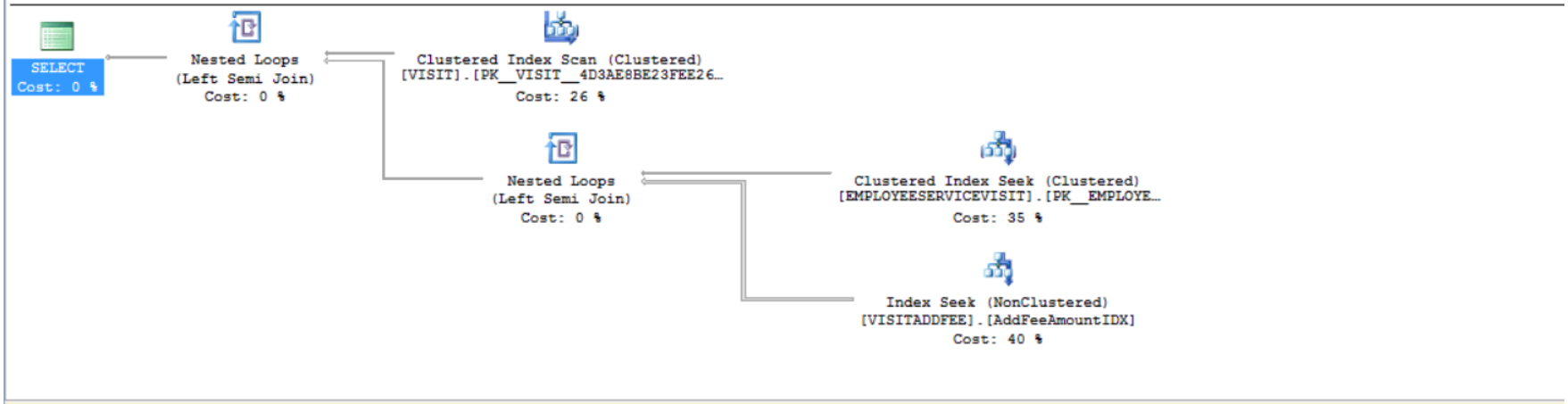
SQLQuery4.sql - a...UAD\haoyuanh (62))* | SQLQuery3.sql - a...UAD\haoyuanh (61))* | SQLQuery2.sql - a...UAD\haoyuanh (56))* | SQLQuery1.sql - a...UAD\haoyuanh (64))*

```sql
/*index 4. (2) Optimize & execute the query in #3. Show the query, the data results, the time to complete, and the query plan (take snapshots of each).*/
select V.VisitNo'Last year visits visitaddfee more than 50'
    from VISIT V
        where year(V.VDate)= year(getdate())-1
        and V.VisitNo in
            (select VisitNo
                from EMPLOYEESERVICEVISIT
                    where VisitNo in
                        (select VisitNo
                            from VISITADDFEE
                                where AddFeeAmount>50));
```

93 %

Results | Messages | Execution plan

```
Query 1: Query cost (relative to the batch): 100%
select V.VisitNo'Last year visits visitaddfee more than 50' from VISIT V where year(V.VDate)= year(getdate())-1 and V.VisitNo in (sele…
```



Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\haoyuanh (62) | SP20_CIS365_30292_TEAM16 | 00:00:00 | 5 rows

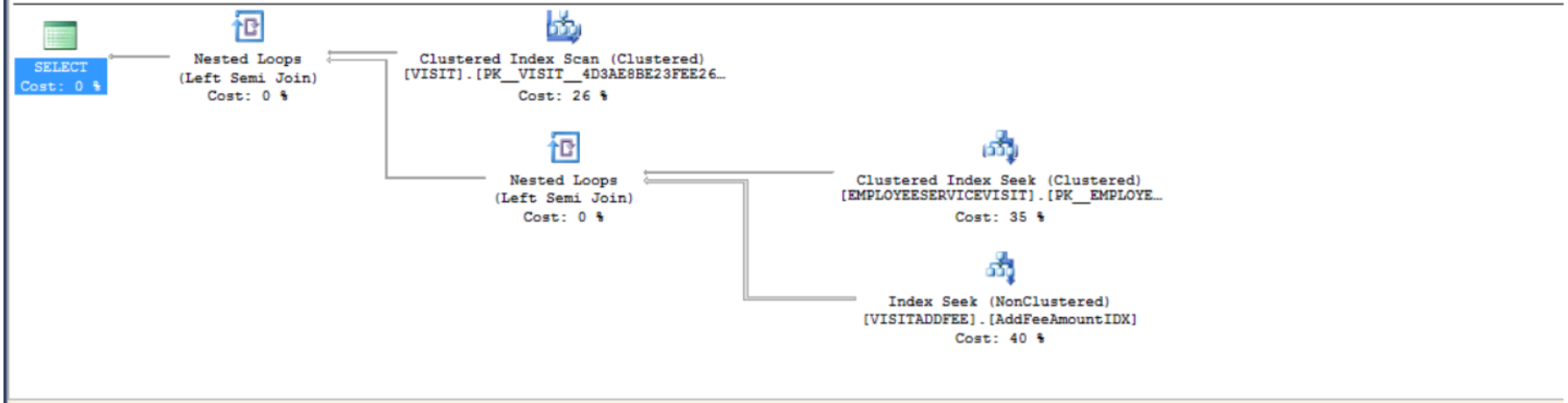
SQLQuery4.sql - a...UAD\haoyuanh (62))* | SQLQuery3.sql - a...UAD\haoyuanh (61))* | SQLQuery2.sql - a...UAD\haoyuanh (56))* | SQLQuery1.sql - a...UAD\haoyuanh (64))*

```
where AddFeeAmount>50));

/*index 5. (2) Comment on the differences between the results in parts 3 & 4. How did you expect the query plans to be different? Did you gain time, or lose time - why
 Based on the query that you executed in part 3, what did you expect to happen and why?*/

 ----in Q3, i used inner join, it shows that index scan cost 25% , index seek cost 73%, and 2% in joins,
  ---in Q4, i used nested query, 26% in index scan, 75% in index seek.
  ---it shows that inner join cost resources to join table, while nested do not need to cost the resource.
  ---also in Q3, i expect the processing time to be shorter, because i use index that should help shorten the processing time.
```

93 %

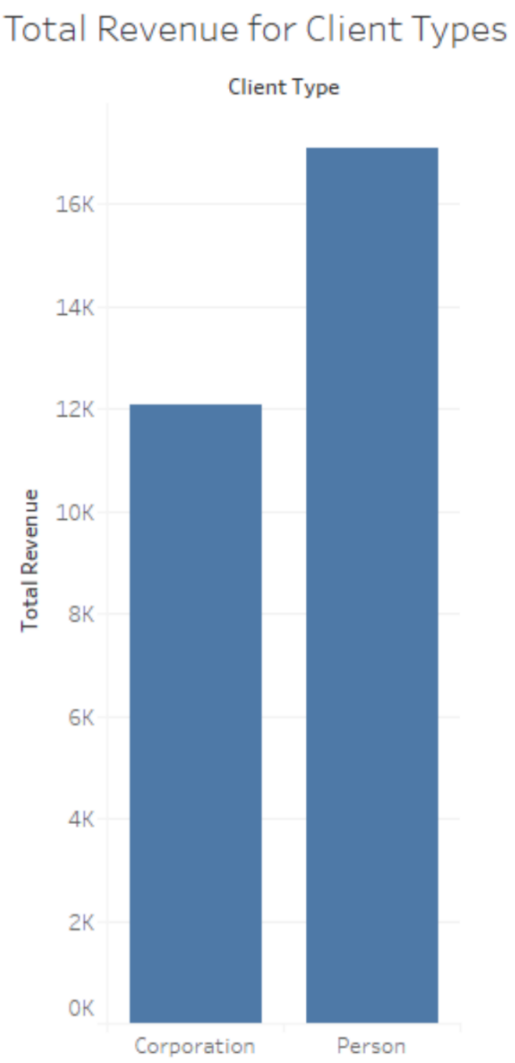
Results | Messages | Execution plan

```
Query 1: Query cost (relative to the batch): 100%
select V.VisitNo'Last year visits visitaddfee more than 50' from VISIT V where year(V.VDate)= year(getdate())-1 and V.VisitNo in (sele…
```



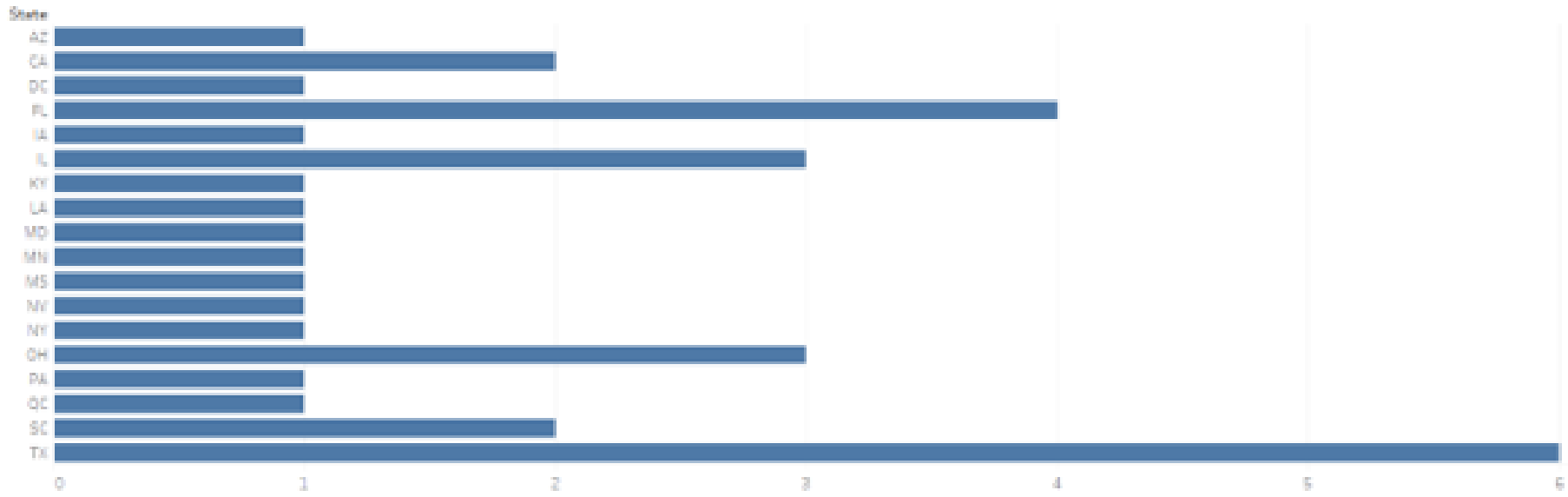
Query executed successfully. | acadsql17.asurite.ad.asu.ed... | ASUAD\haoyuanh (62) | SP20_CIS365_30292_TEAM16 | 00:00:00 | 5 rows

Individual Visualizations



By Michael Stangret

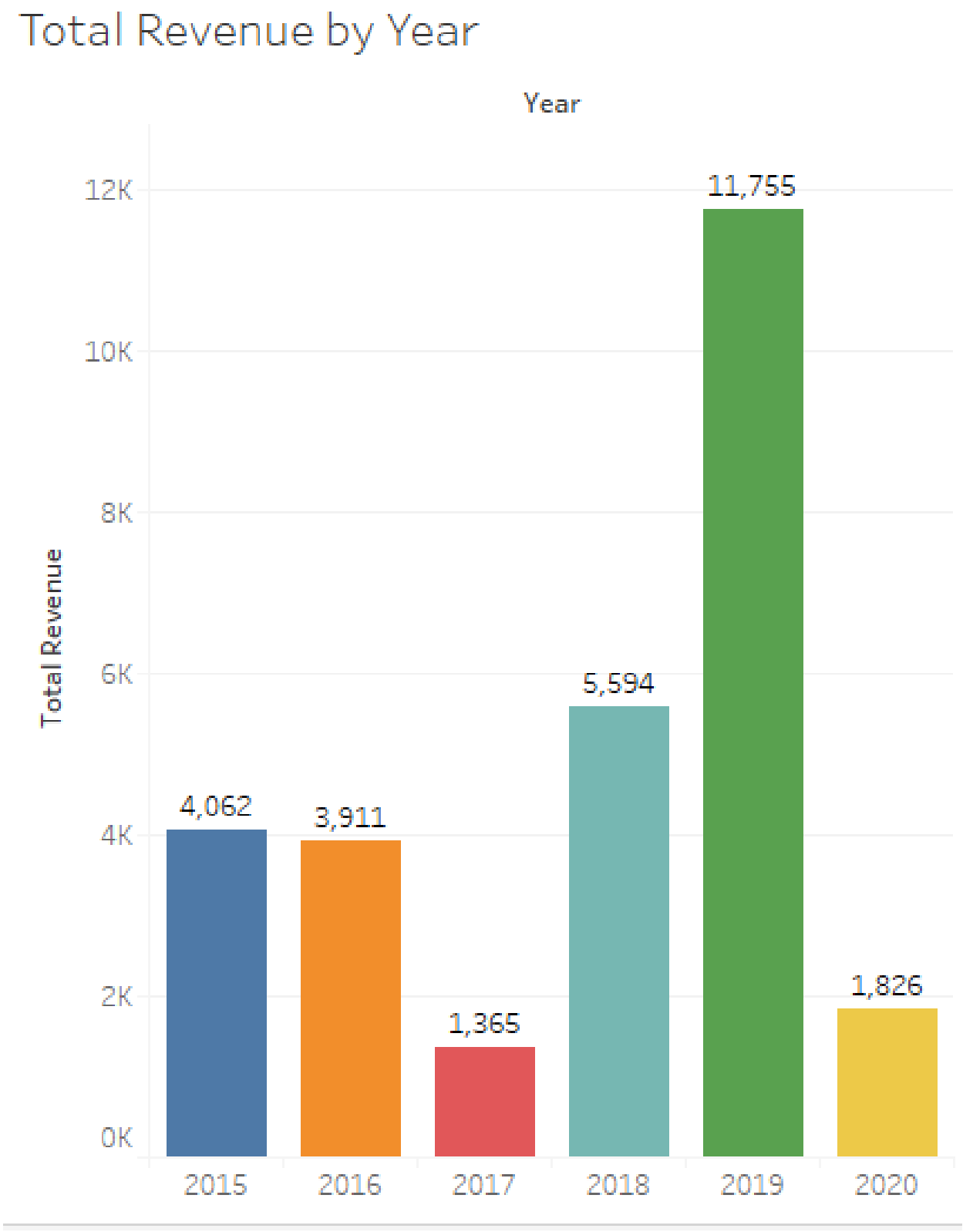
Number of Clients by State



Caption

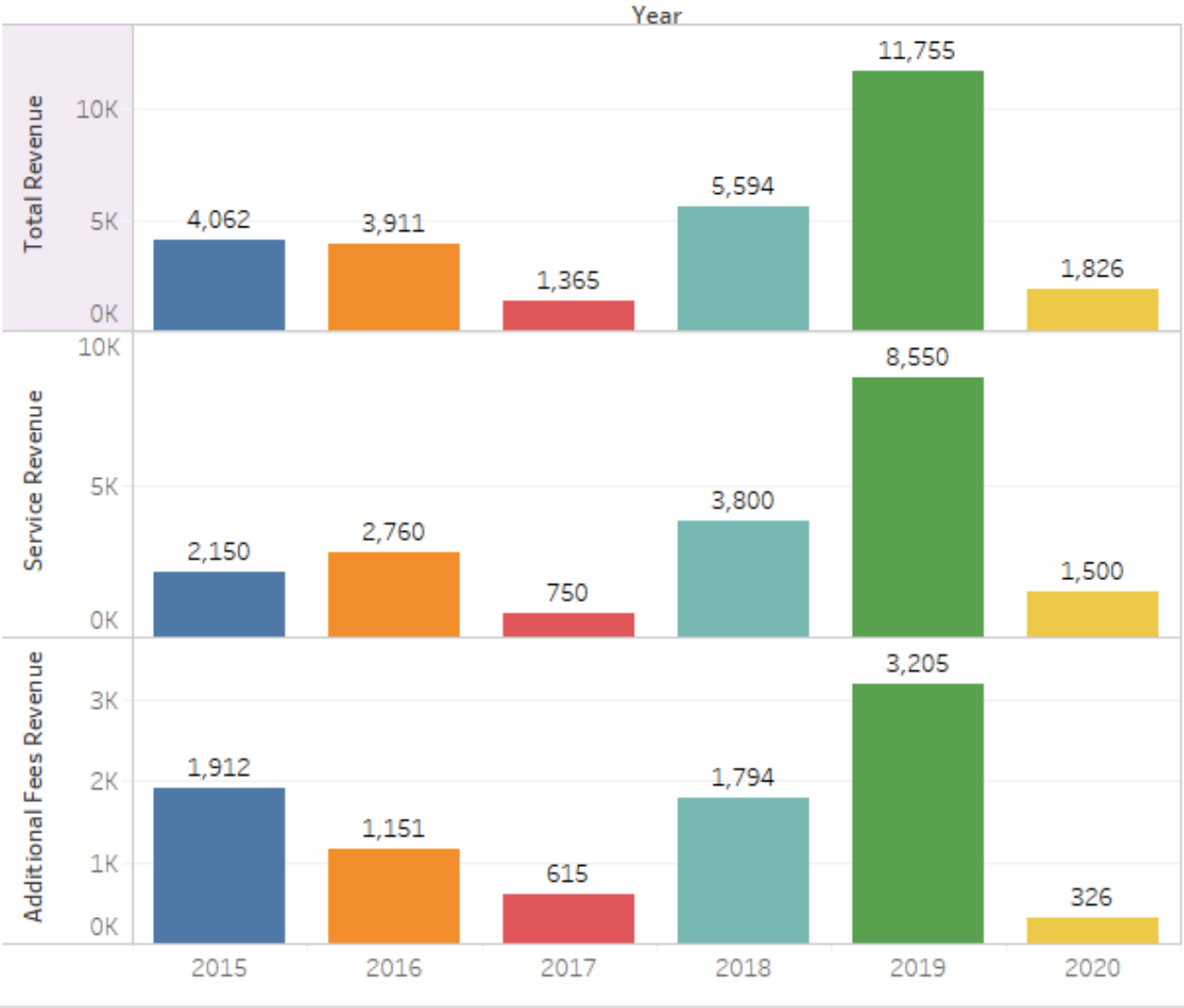
Chart provides the number of clients in each state.

By Guoyi Lyu

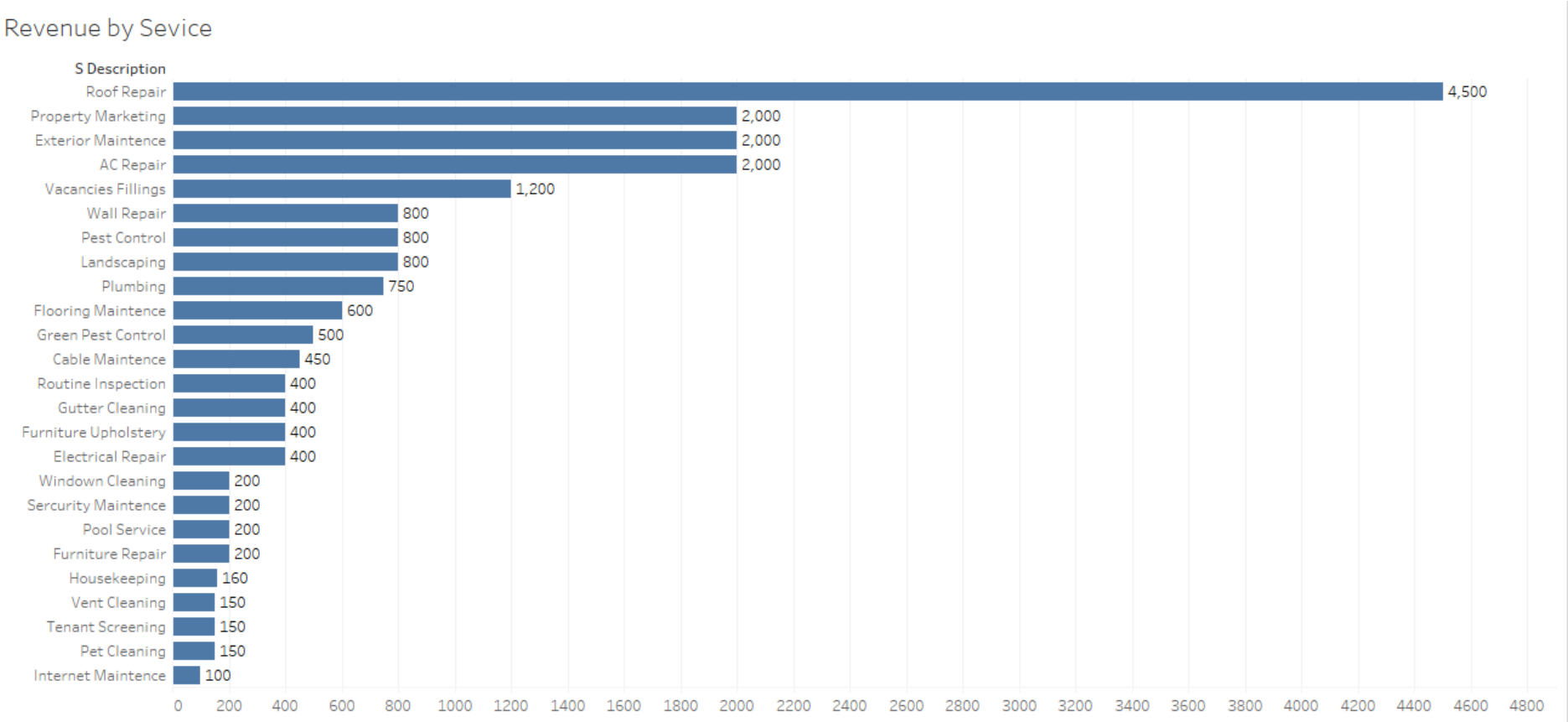


By Haoyuan He

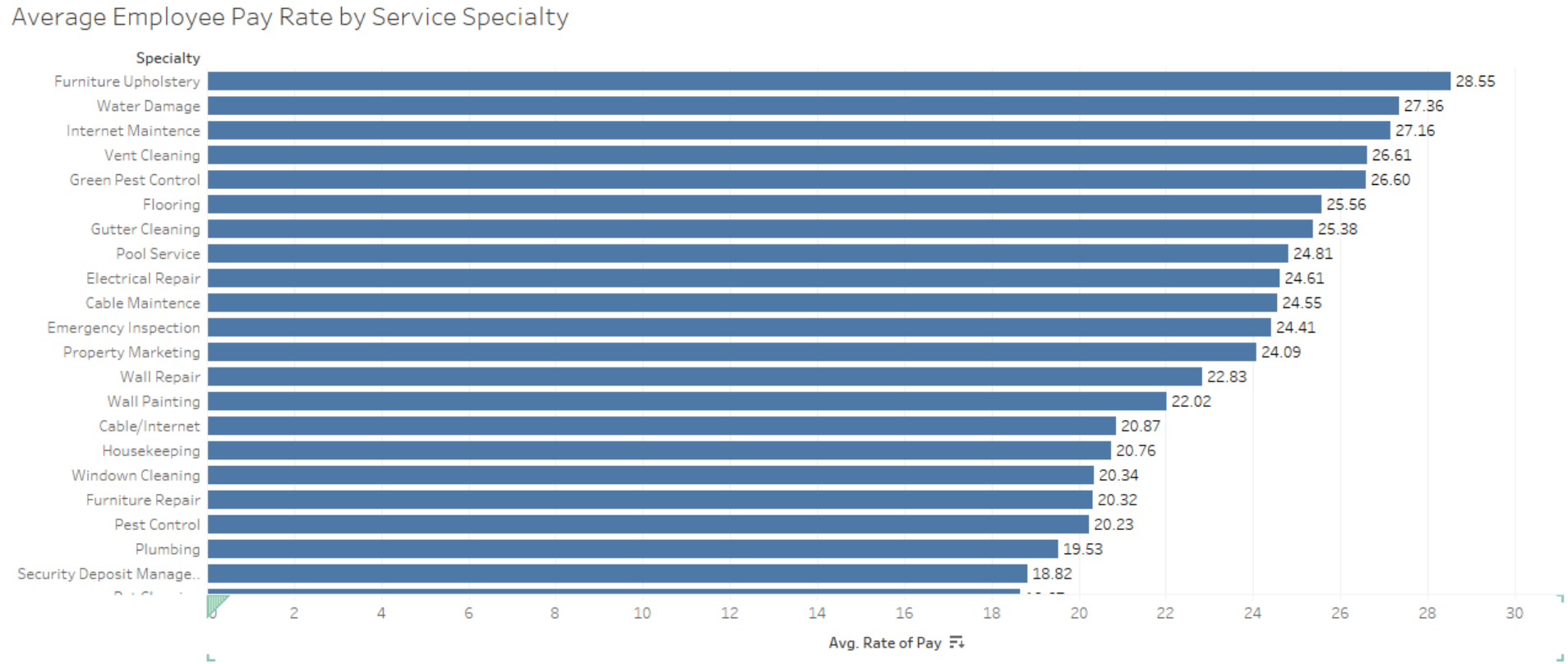
Revenue Details by Year



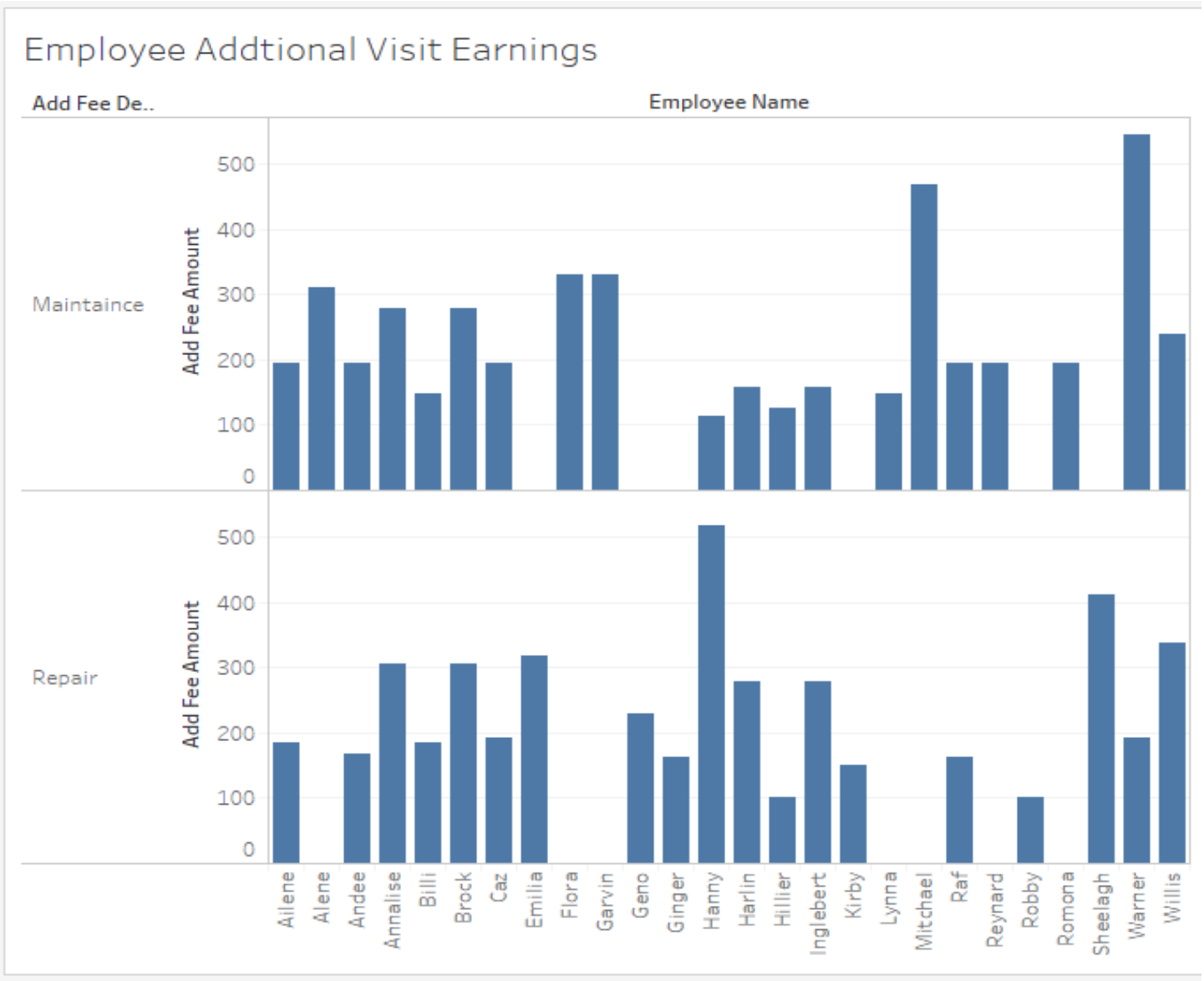
By Haoyuan He


Revenue by Sevice
S Description
Roof Repair
Property Marketing
Exterior Maintence
AC Repair
Vacancies Fillings
Wall Repair
Pest Control
Landscaping
Plumbing
Flooring Maintence
Green Pest Control
Cable Maintence
Routine Inspection
Gutter Cleaning
Furniture Upholstery
Electrical Repair
Windown Cleaning
Sercurity Maintence
Pool Service
Furniture Repair
Housekeeping
Vent Cleaning
Tenant Screening
Pet Cleaning
Internet Maintence
4,500
2,000
2,000
2,000
1,200
800
800
800
750
600
500
450
400
400
400
400
200
200
200
200
160
150
150
150
100
0 200 400 600 800 1000 1200 1400 1600 1800 2000 2200 2400 2600 2800 3000 3200 3400 3600 3800 4000 4200 4400 4600 4800

By Suqi Cui

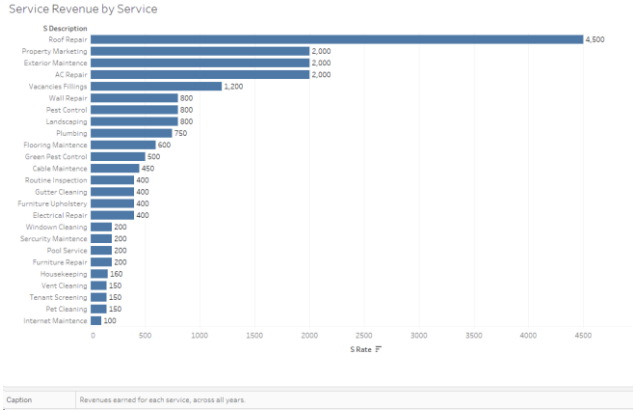


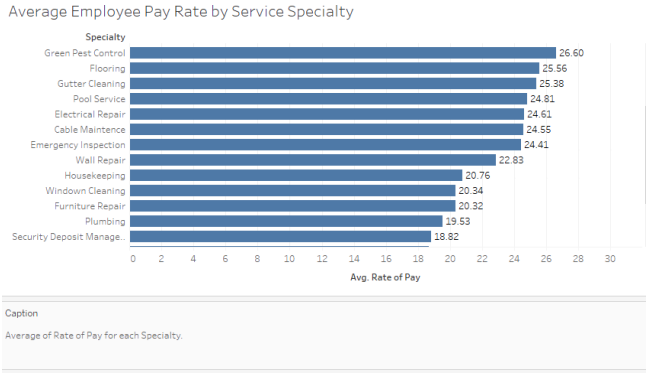
By Lindsey Flewelling

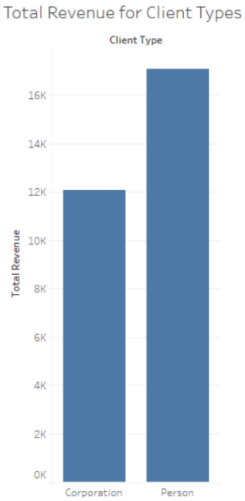


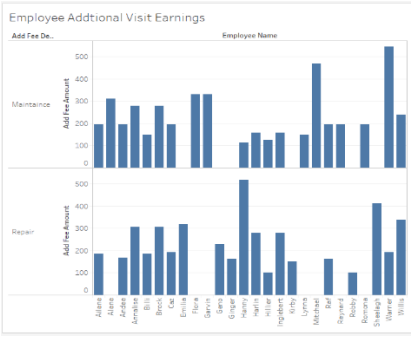
By Sharon Chin

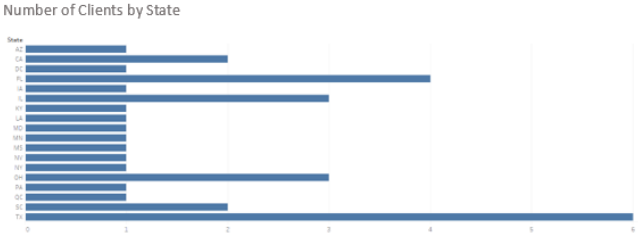
Dashboard





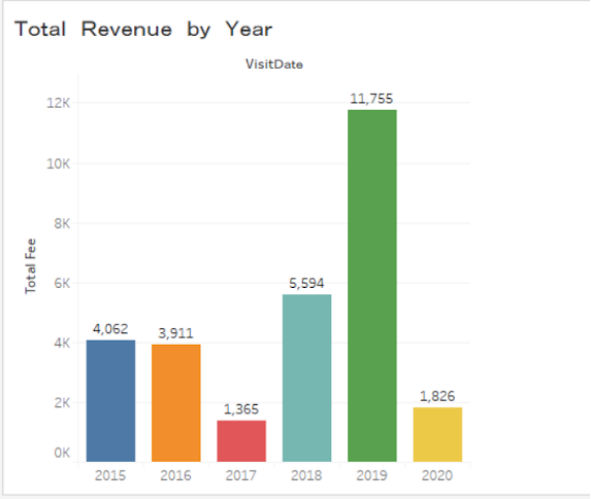


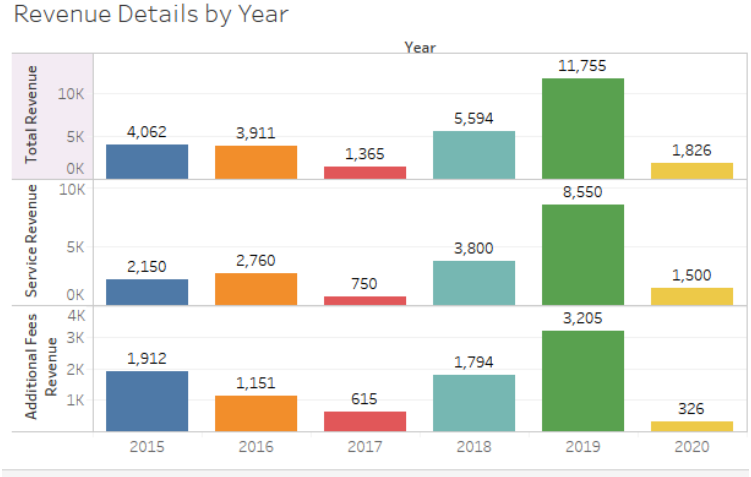




Caption

Chart provides the number of clients in each state.





Challenges of Database Development

As with all big projects, there were some challenges. Some to do with building and querying the database, others to do with team management.

When it came to the database, we struggled to conceptualize translating business rules to E/R Diagram. In our quest to get it perfect, we sometimes we have different understanding of words in the business rules. To solve this, we expressed our confusion with our clients in order to make sure we are on the same page. During implementation, we found that some tables did not meet the expectations as we tested them in the later stages. Even though it was hard and time-consuming, we diligently updated them and even rebuild them in order to optimize the database.

Some of our team-related challenges had to do with learning each person's working style. Initially, we assigned our tasks randomly. We quickly realized it was not the best way to work as a team. ProSolvers is made of six talented people. Each has different expertise. We were able to better utilize each member's strengths once we decided to separate parts by advantages in order to better utilize each member's strengths.

Working on projects such as this requires a lot of communication. Much of the time, we needed to access tables that are related with one another, in ways that might interfere with a teammates task. In order to coordinate, we utilized zoom, GroupMe, and google drive to always be in contact with one another. These working meetings made it clear what people are working on at a given moment, as well as ideas in order to troubleshoot issues.

We struggled to find the best ways to work efficiency and in order to complete the project. We broke-up tasks so that they were manageable for each team member. We also set deadlines for tasks to manage our time. Time management allowed ensured that the final database design would work effectively, whether we were entering data, or querying, we spent extensive time optimizing our code.

Lessons Learned

We learned several important lessons during this project. Having a clear goal in mind gives you direction on your database. It helps you break things into small tasks and prevents you from getting interrupted by other things. Secondly, understand your teammates strengths, and utilize these strengths during project. Thirdly, be comfortable with revisions and adapt to unforeseen situations. Having a positive attitude regardless of the situation is key to being able to work through any kinks. The goal is to come out on top. It’s important to learn from coding errors and to not fear failure. Experience is the weapon to make you succeed. Of course, communication is important. Keep in contact with your group members, understand where they are in their tasks and keep the project completion on time. Our final lesson learned is to trust in our team. Believe in one another to do what they are assigned to do and trust in our teammate's skills.

Appendix A - SQL Scripts

```
----------------------------------------------------
*/ CREATE TABLES AND INSERT VALUES/*
----------------------------------------------------

/* CREATE THE SPACE FOR THE PROPERTY TABLE */

Create table PROPERTY
(PropertyID char(12)  NOT NULL,
PName varchar(20),
PAddress varchar (40) NOT NULL,
PCity varchar(20) NOT NULL,
PState char(2) NOT NULL,
PZip char(5) NOT NULL,
PBedroomNo integer,
PBathroomNo Integer,
PRoofType varchar(15),
PExteriorType varchar(15),
PSquareF varchar(15),
PYearBuilt char(4),
Primary Key(PropertyID));

insert into PROPERTY values (119011870720, 'Le Petite Chambre', '870 Oldham Way', 'Palm Beach','FL', 33412
,4, 2,'Tile', 'Wood', 1547, 2002);
insert into PROPERTY values(116506187506, 'MiniPalais', '8826 Wendy Ln SWest Palm Beach', 'Palm Beach','FL',
33411 ,3, 2,'Tile', 'Wood', 1540, 2014);
insert into PROPERTY values(118306051619, 'Florida Estate','8935 Okeechobee Rd', 'Palm Beach','FL', 33412 ,5,
3,'Shingle', 'Brick', 31547, 2012);
insert into PROPERTY values(119910146670, 'EcoStay', '806 Lido Cir West', 'Palm Beach','FL', 33411 ,4,
2,'Shingle', 'Stucco', 1400, 2011);
insert into PROPERTY values(112009157934, 'La Grande Maison', '824 Sky Way Pne', 'Palm Beach','FL', 33412 ,3,
2,'Shingle', 'Wood', 1403, 2004);
insert into PROPERTY values(119607203347, 'Noble Estates','8437 Butler Greenwood Dr', 'Palm Beach','FL',
33411 ,5, 3,'Slate', 'Stucco', 2145, 2012);
insert into PROPERTY values(114907263829, 'Greenwood Estate','6611 Lytle Ct', 'Palm Beach','FL', 33412 ,3, 2,
'Shingle', 'Brick', 1540, 2002);
insert into PROPERTY values(116590827911, 'FloridaBackPack', '711 Forest Club Dr','Palm Beach','FL', 33411 ,2,
1,'Slate', 'Wood', 851, 2012);
insert into PROPERTY values(115201831281, 'NULL','324 Bunker Ranch Rd','Palm Beach','FL', 33412 ,5, 3,'Slate',
'Wood', 2214 ,2011 );
insert into PROPERTY values(111701198556, 'NULL','362 Colonial Rd', 'Palm Beach','FL', 33411 ,4, 2,'Solar',
'Wood', 1200, 2001);
insert into PROPERTY values(114110153592, 'Niyama ','8935 Okeechobee Rd ', 'Palm Beach','FL', 33412 ,3,
3,'Tile', 'Wood', 1840, 2012);
insert into PROPERTY values(117917310741, 'NULL','10342 Fox Trail Rd S', 'Palm Beach','FL', 33411 ,5, 2,'Slate',
'Stone', 2421, 2002);
insert into PROPERTY values(118997219928, 'Adobe','89  Poco Mas Drive', 'Palm Beach','FL', 33412 ,3,
2,'Shingle', 'Stucco', 1220, 2011);
```

```
insert into PROPERTY values(113456788989, 'Envision Hills','2070 Reston Cir ', 'Palm Beach','FL', 33411 ,2,
2,'Green Roof ', 'Wood', 1800, 2009);
insert into PROPERTY values(114456785945, 'NULL','36 Lancaster Ave.Deltona', 'Palm Beach','FL', 33412 ,5,
2,'Tile', 'Stone', 2452, 2014);
insert into PROPERTY values(112801684917, 'Temple Palace','7895 East White Road', 'Palm Beach','FL', 33411 ,3,
2,'Slate', 'Wood', 1400, 2013);
insert into PROPERTY values(111899721992, 'The Oracle', '9655 Kingston Lane', 'Palm Beach','FL', 33412 ,2,
2,'Solar', 'Stone', 900 , 2009);
insert into PROPERTY values(110668642690, 'Aurora Heights ','397 Wagon St. Lebanon', 'Palm Beach','FL', 33411
,3, 2,'Tile', 'Brick', 1240, 2003);
insert into PROPERTY values(119343234788, 'EastWoods Village?? ','31 Joy Ridge Court', 'Palm Beach','FL', 33412
,2, 1,'Tile', 'Wood', 851, 2003);
insert into PROPERTY values(115619751617, 'NULL','7276 Walt Whitman Lane', 'Palm Beach','FL', 33411 ,5,
3,'Shingle', 'Stucco', 2800, 2002);
insert into PROPERTY values(110963644282, 'Frux', '7734 Griffin Ave.', 'Palm Beach','FL', 33412 ,2, 1,'Slate',
'Brick', 851, 2001);
insert into PROPERTY values(118644679159, 'NULL','6 86 Helen Rd.', 'Palm Beach','FL', 33411 ,5, 2,'Shingle',
'Wood', 2500, 2011);
insert into PROPERTY values(114942263294, 'Floridaverse','7642 Foster Court', 'Palm Beach','FL', 33412 ,2,
1,'Green Roof', 'Wood', 900, 2009);
insert into PROPERTY values(117470165907, 'Fiostrict','46 N. Valley View St.', 'Palm Beach','FL', 33411 ,3,
2,'Slate', 'Stucco', 1400, 2000);
insert into PROPERTY values(118407919297, 'Falman Heights','223 Galvin St. Atamonte Springs', 'Palm
Beach','FL', 33412 ,4, 2,'Tile', 'Stucco', 1800, 2011);
insert into PROPERTY values(115369762538, 'BeachWay','956 Manchester Drive', 'Palm Beach','FL', 33411 ,3,
2,'Slate', 'Wood', 1800, 2012);
insert into PROPERTY values(112520538605, 'FloridaCalibre', '4924 Pine Street Roanoke', 'Palm Beach','FL',
33412 ,4, 4,'Shingle', 'Brick', 2420, 2014);
insert into PROPERTY values(114654577224, 'NULL', '656 Birch Hill Ave.', 'Palm Beach','FL', 33411 ,5, 3,'Tile',
'Wood', 2400, 2002);
insert into PROPERTY values(118398541900, 'Homes Pointe','9014 Sussex Ave.', 'Palm Beach','FL', 33412 ,4,
2,'Shingle', 'Stucco', 2200, 2001);
insert into PROPERTY values(160310023288, 'VineWood','9845 Bellevue Street', 'Palm Beach','FL', 33411 ,2,
1,'Shingle', 'Stucco', 900, 2001);

/* SHOWS ALL TUPLES FOR PROPERTY TABLE */
SELECT * FROM PROPERTY;

/* CREATE THE SPACE FOR THE EMPLOYEE TABLE */
Create table EMPLOYEE
(EID char(12) NOT NULL,
EFirstName varchar(15) NOT NULL,
ELastName varchar(15) NOT NULL,
EPaidRate decimal (10,2) NOT NULL,
EAddress varchar (40) NOT NULL,
ECity varchar(20) NOT NULL,
EState char(2) NOT NULL,
EZip char(5) NOT NULL,
EPhone char(10) NOT NULL,
```

```
ESpecial varchar(30),
Primary Key(EID));

insert into EMPLOYEE  values (225353730378, 'Geno', 'Le Clercq', 20.76, '3672 Fremont Way', 'Boca Raton', 'FL',
'33499', '5614698424', 'Flooring');
insert into EMPLOYEE  values (046073559069, 'Caz', 'Cheverell', 23.61, '20 Prairie Rose Crossing', 'Lake Worth',
'FL', '33462', '5619979714', 'Wall Painting');
insert into EMPLOYEE  values (954093009611, 'Warner', 'Thacke', 24.81, '721 Marquette Lane', 'Miami', 'FL',
'33283', '3057738253', 'Cable/Internet');
insert into EMPLOYEE  values (332108469901, 'Hanny', 'Fluger', 16.35, '818 Evergreen Drive', 'Tampa', 'FL',
'33694', '8138164605', 'Pest Control');
insert into EMPLOYEE  values (386554849807, 'Willis', 'Moir', 26.6, '6333 Ohio Place', 'Saint Petersburg', 'FL',
'33710', '7279175243', 'Flooring');
insert into EMPLOYEE  values (528800277700, 'Brock', 'Yoseloff', 25.38, '1943 Forest Alley', 'Miami', 'FL', '33153',
'7861769977', 'Electrical');
insert into EMPLOYEE  values (647123698494, 'Robby', 'Follin', 15.87, '4215 Northland Circle', 'Tallahassee', 'FL',
'32309', '8509081912', 'Wall Painting');
insert into EMPLOYEE  values (058831461312, 'Ailene', 'Potter', 17.26, '93782 Acker Crossing', 'Pensacola', 'FL',
'32526', '8507944360', 'Cable/Internet');
insert into EMPLOYEE  values (811480423384, 'Harlin', 'Goodridge', 20.34, '52084 Killdeer Plaza', 'Jacksonville',
'FL', '32209', '9044422932', 'Flooring');
insert into EMPLOYEE  values (673881520786, 'Ginger', 'Bergstrand', 26.61, '7561 Monument Avenue',
'Jacksonville', 'FL', '32236', '9043030464', 'Wall Painting');
insert into EMPLOYEE  values (339139055281, 'Kirby', 'Trays', 27.75, '249 Oriole Park', 'Pensacola', 'FL', '32526',
'8508463412', 'Pest Control');
insert into EMPLOYEE  values (903799201576, 'Dionysus', 'Siddeley', 18.3, '886 Linden Lane', 'Orlando', 'FL',
'32825', '9541108365', 'Pest Control');
insert into EMPLOYEE  values (074757434885, 'Billi', 'Elven', 24.48, '66 Schmedeman Hill', 'Bradenton', 'FL',
'34282', '9412470736', 'Cable/Internet');
insert into EMPLOYEE  values (451097310971, 'Annalise', 'Emanson', 18.82, '2306 Larry Circle', 'Punta Gorda',
'FL', '33982', '9413652385', 'Electrical');
insert into EMPLOYEE  values (110833031276, 'Lynna', 'Brizland', 17.7, '1 Elmside Pass', 'Orlando', 'FL', '32830',
'4078754910', 'Electrical');
insert into EMPLOYEE  values (165941127521, 'Rockwell', 'Seakings', 27.36, '3153 High Crossing Road', 'Miami',
'FL', '33169', '9544640231', 'Wall Painting');
insert into EMPLOYEE  values (203893758715, 'Romona', 'Solland', 19.53, '6364 Village Green Way', 'Clearwater',
'FL', '34620', '7279173823', 'Plumping');
insert into EMPLOYEE  values (786002859575, 'Jess', 'Klouz', 22.83, '59 Summerview Junction', 'Tampa', 'FL',
'33680', '8134544816', 'Wall Painting');
insert into EMPLOYEE  values (264698979946, 'Sheelagh', 'Mordaunt', 24.61, '060 Knutson Hill', 'Clearwater', 'FL',
'33758', '8133634307', 'Plumping');
insert into EMPLOYEE  values (074771536235, 'Garvin', 'Vasyukhin', 17.89, '5043 Moulton Plaza', 'Orlando', 'FL',
'32825', '3212900775', 'Repair');
insert into EMPLOYEE  values (847690350105, 'Inglebert', 'Flowerden', 18.67, '81159 Linden Place', 'Daytona
Beach', 'FL', '32118', '4079678588', 'Repair');
insert into EMPLOYEE  values (147162033335, 'Flora', 'Barizeret', 24.55, '632 Superior Court', 'Jacksonville', 'FL',
'32236', '9047951753', 'Pest Control');
insert into EMPLOYEE  values (862696682857, 'Mitchael', 'Pinson', 27.16, '9 Welch Road', 'Port Saint Lucie', 'FL',
'34985', '7725195361', 'Plumping');
```

```
insert into EMPLOYEE  values (241815730717, 'Andee', 'Adney', 28.55, '67403 Bunker Hill Trail', 'Fort Pierce', 'FL',
'34949', '7726782074', 'Electrical');
insert into EMPLOYEE  values (459881896308, 'Hillier', 'Ewells', 20.32, '983 Burning Wood Drive', 'Lakeland', 'FL',
'33811', '8638416327', 'Flooring');
insert into EMPLOYEE  values (025061470070, 'Reynard', 'Munnis', 20.42, '59 Forest Pass', 'Hialeah', 'FL', '33018',
'7869397828', 'Wall Painting');
insert into EMPLOYEE  values (271248371662, 'Emilia', 'Assaf', 24.41, '956 Longview Center', 'Fort Myers', 'FL',
'33994', '2392836169', 'Electrical');
insert into EMPLOYEE  values (071380725550, 'Barnie', 'Antwis', 25.92, '911 Mosinee Lane', 'Orlando', 'FL',
'32808', '3218825282', 'Pest Control');
insert into EMPLOYEE  values (799635302453, 'Raf', 'Shillaber', 25.56, '0782 Almo Drive', 'Pensacola', 'FL',
'32505', '8506341496', 'Flooring');
insert into EMPLOYEE  values (845724229693, 'Alene', 'Polkinghorne', 18.41, '83 Oneill Terrace', 'Clearwater',
'FL', '34615', '7277695433', 'Pest Control');

/* SHOWS ALL TUPLES FOR EMPLOYEE */

SELECT * FROM EMPLOYEE;

 /* CREATE THE SPACE FOR THE SERVICE TABLE */
Create table SERVICE
(SID char(12) NOT NULL,
SDescription varchar(60),
SRate decimal(10,2),
Primary key(SID));

insert into SERVICE values(10000000000, 'Housekeeping', 80);
insert into SERVICE values(10000000001, 'Landscaping', 400);
insert into SERVICE values(10000000002, 'Pool Service', 50);
insert into SERVICE values(10000000003, 'Pest Control', 200);
insert into SERVICE values(10000000004, 'Gutter Cleaning', 100);
insert into SERVICE values(10000000005, 'Windown Cleaning', 50);
insert into SERVICE values(10000000006, 'Vent Cleaning', 150);
insert into SERVICE values(10000000007, 'Sercurity Maintence',100);
insert into SERVICE values(10000000008, 'Roof Repair', 1500);
insert into SERVICE values(10000000009, 'Green Pest Control', 500);
insert into SERVICE values(10000000010, 'Wall Repair', 800);
insert into SERVICE values(10000000011, 'Remove Waste Maintence',80);
insert into SERVICE values(10000000012, 'Property Marketing', 1000);
insert into SERVICE values(10000000013, 'Vacancies Fillings', 300);
insert into SERVICE values(10000000014, 'Tenant Screening', 150);
insert into SERVICE values(10000000015, 'Security Deposit Management', 80);
insert into SERVICE values(10000000016, 'Carpet Cleaning', 200);
insert into SERVICE values(10000000017, 'Water Damage', 500);
insert into SERVICE values(10000000018, 'Plumbing' , 250);
insert into SERVICE values(10000000019, 'Electrical Repair', 200);
insert into SERVICE values(10000000020, 'Flooring Maintence', 200);
insert into SERVICE values(10000000021, 'Pet Cleaning', 75);
insert into SERVICE values(10000000022, 'Cable Maintence', 150);
```

```
insert into SERVICE values(10000000023, 'Internet Maintence', 100);
insert into SERVICE values(10000000024, 'Furniture Upholstery', 200);
insert into SERVICE values(10000000026, 'Furniture Repair', 200);
insert into SERVICE values(10000000027, 'Exterior Maintence', 1000);
insert into SERVICE values(10000000028, 'Emergency Inspection', 200);
insert into SERVICE values(10000000029, 'AC Repair', 1000);
insert into SERVICE values(10000000030, 'Routine Inspection',200);

/* SHOWS ALL TUPLES FOR SERVICE TABLE */
SELECT * FROM SERVICE;

/* CREATE THE SPACE FOR THE CLIENT TABLE */

Create table CLIENT
(CID char(12) NOT NULL,
CName varchar(30) NOT NULL,
CAddress varchar (40) NOT NULL,
CCity varchar(20) NOT NULL,
CState varchar(2) NOT NULL,
CZip char(5) NOT NULL,
CPhone char(10) NOT NULL,
CEmail varchar (40) NOT NULL,
CType varchar(20) NOT NULL,
CStartDate date NOT NULL,
Primary Key (CID));


insert into CLIENT values(357076757958, 'Cobbald', '5 Spohn Lane', 'Buffalo', 'NY', 14215, 7164342516,
'tcobbald0@bravesites.com', 'Person', '5/14/2019');
insert into CLIENT values(353868970222, 'Kenaway', '81382 Bartelt Street', 'Springfield', 'IL', 62723, 2171144785,
'bkenaway1@hhs.gov', 'Person', '3/21/2020');
insert into CLIENT values(637120442929, 'Clyant', '4193 Scott Center', 'Los Angeles', 'CA', 90010, 6264448480,
'bclyant2@elegantthemes.com', 'Person', '10/13/2019');
insert into CLIENT values(677105192081, 'Ochiltree', '5524 Reinke Terrace', 'Bethesda', 'MD', 20892,
3019804634, 'dochiltree3@reverbnation.com', 'Person', '2/20/2020');
insert into CLIENT values(354279768015, 'Aylwin', '57 Rigney Place', 'Iowa City', 'IA', 52245, 3195253811,
'caylwin4@bbb.org', 'Person', '11/13/2019');
insert into CLIENT values(300887666216, 'Popeley', '4756 Service Pass', 'Charleston', 'SC', 29411, 8438566414,
'mpopeley5@google.pl', 'Person',  '2/21/2020');
insert into CLIENT values(491732531713, 'Rosenthal', '818 Surrey Parkway', 'Daytona Beach', 'FL', 32118,
4071330661, 'mrosenthal6@edublogs.org', 'Person',  '5/8/2019');
insert into CLIENT values(352966942563, 'Raden', '576 Elmside Road', 'Columbus', 'OH', 43268, 6148080915,
'araden7@nih.gov', 'Person', '1/8/2020');
insert into CLIENT values(553026708434, 'Raitt', '69 Cherokee Plaza', 'Irving', 'TX', 75062, 8171699671,
'traitt8@ocn.ne.jp', 'Person', '6/6/2019');
insert into CLIENT values(559576298989, 'Ziemke', '1120 Oxford Court', 'Alhambra', 'CA', 91841, 6263174375,
'sziemke9@seesaa.net', 'Person', '1/31/2020');
insert into CLIENT values(560222557009, 'Blackmore', '42760 Oak Court', 'Meridian', 'MS', 39305, 6016427576,
'gblackmorea@spiegel.de', 'Person', '8/5/2019');
```

```
insert into CLIENT values(432408784716, 'Toretta', '3 Becker Trail', 'Washington', 'DC', 20029,
2024443571,'dtorettab@barnesandnoble.com', 'Person', '8/12/2019');
insert into CLIENT values(560221698167, 'Enrdigo', '0 Marquette Street', 'Pittsburgh', 'PA', 15286, 4127572384,
'lenrdigoc@abc.net.au', 'Person', '12/29/2019');
insert into CLIENT values(357949593026, 'Jerrom', '1 Ryan Avenue', 'Rockford', 'IL', 61110, 8158299254,
'djerromd@g.co', 'Person',  '7/12/2019');
insert into CLIENT values(356399900918, 'Jindrich', '1 Tennessee Alley', 'Monroe', 'LA', 71213, 3188667907,
'mjindriche@digg.com', 'Person', '5/24/2019');
insert into CLIENT values(356633117549, 'Zoomlounge', '09196 Southridge Trail', 'Greenville', 'SC', 29605,
8648589322, 'soleahy0@statcounter.com', 'Corporation', '2/14/2020');
insert into CLIENT values(500235062152, 'Eadel', '6343 Jackson Plaza', 'Miami', 'FL', 33142, 9547478576,
'ajouannissong@sitemeter.com', 'Corporation', '2/14/2020');
insert into CLIENT values(354085050542, 'Voonder', '53349 Briar Crest Trail', 'Lexington', 'KY', 40586,
8599423980, 'wpulleyh@go.com', 'Corporation', '11/10/2019');
insert into CLIENT values(633110249405, 'Photospace', '0 Rigney Park', 'Minneapolis', 'MN', 55448, 7639010094,
'ekosi@i2i.jp', 'Corporation', '12/29/2019');
insert into CLIENT values(354409237289, 'Topicshots', '7420 Bunting Plaza', 'Dallas', 'TX', 75367, 2142293415,
'cgoolyj@google.ca', 'Corporation', '4/8/2019');
insert into CLIENT values(630455395535, 'Kare', '0988 Melvin Place', 'Spring Hill', 'FL', 34611, 3529695031,
'ialonso0@ning.com', 'Corporation', '3/27/2019');
insert into CLIENT values(355153149696, 'Pixonyx', '21418 Independence Parkway', 'Columbus', 'OH', 43240,
7408114839, 'kdaunay1@jiathis.com', 'Corporation', '5/8/2019');
insert into CLIENT values(560223116918, 'Talane', '05518 Summer Ridge Road', 'Corpus Christi', 'TX', 78475,
3616098059, 'vodeoran2@redcross.org', 'Corporation', '3/16/2020');
insert into CLIENT values(357169932973, 'Twitterworks', '089 Tennessee Lane', 'San Antonio', 'TX', 78291,
2107795695, 'ebarca3@wisc.edu', 'Corporation', '11/2/2019');
insert into CLIENT values(670903137727, 'Dabfeed', '92748 Brickson Park Center', 'Henderson', 'NV', 89012,
7024686124, 'grenwick4@globo.com', 'Corporation', '5/4/2019');
insert into CLIENT values(358260108799, 'Skynoodle', '15631 Old Shore Terrace', 'Houston', 'TX', 77228,
7132198816, 'ncowdray5@independent.co.uk', 'Corporation', '12/7/2019');
insert into CLIENT values(337941345118, 'Trunyx', '3286 Donald Drive', 'Orlando', 'FL', 32813, 3211744434,
'dworrall6@illinois.edu', 'Corporation', '6/21/2019');
insert into CLIENT values(353453080593, 'Linklinks', '441 Memorial Pass', 'Houston', 'TX', 77271, 7139599516,
'vosgorby7@shutterfly.com', 'Corporation', '4/24/2019');
insert into CLIENT values(355516366510, 'Snaptags', '88517 Summerview Avenue', 'Dayton', 'OH', 45414,
9371168889,'nfleet8@japanpost.jp', 'Corporation', '2/7/2020');
insert into CLIENT values(353540235487, 'Tazz', '2711 Graceland Street', 'Springfield', 'IL', 62776, 2176035742,
'lcollings9@cisco.com', 'Corporation', '3/16/2020');

/* SHOWS ALL TUPLES FOR CLIENT TABLE */
SELECT * FROM CLIENT;

/* CREATE THE SPACE FOR THE CTYPEPERSON TABLE */

Create table CTYPEPERSON
(CTPersonID char(12) NOT NULL,
PCreditCardNo varchar(16) NOT NULL,
Primary Key (CTPersonID),
Foreign Key(CTPersonID) REFERENCES CLIENT(CID));
```

```
insert into CTYPEPERSON values(357076757958, '3567177685829199');
insert into CTYPEPERSON values(353868970222, '5100144615053273');
insert into CTYPEPERSON values(637120442929, '5430089165057722');
insert into CTYPEPERSON values(677105192081, '3536329774185276');
insert into CTYPEPERSON values(354279768015, '3543677181858898');
insert into CTYPEPERSON values(300887666216, '3541328136998148');
insert into CTYPEPERSON values(491732531713, '3568992698243967');
insert into CTYPEPERSON values(352966942563, '3570295310158068');
insert into CTYPEPERSON values(553026708434, '6334907773528044');
insert into CTYPEPERSON values(559576298989, '3543264622571453');
insert into CTYPEPERSON values(560222557009, '2016245065780321');
insert into CTYPEPERSON values(432408784716, '6771380436723055');
insert into CTYPEPERSON values(560221698167, '6304642379147311');
insert into CTYPEPERSON values (357949593026,'4175003398706296');
insert into CTYPEPERSON values (356399900918,'3553796055924987');

/* SHOWS ALL TUPLES FOR  CTYPEPERSON TABLE */
SELECT * FROM CTYPEPERSON;

/* CREATE THE SPACE FOR THE CTYPECORPORATION TABLE */

Create table  CTYPECORPORATION
( CTCorporationID char(12) NOT NULL,
COContactN varchar(20) NOT NULL,
COPhone char(10) NOT NULL,
Primary Key ( CTCorporationID),
Foreign Key(CTCorporationID) REFERENCES CLIENT(CID));

insert into CTYPECORPORATION values(356633117549, 'Janet Good', 7748945511);
insert into CTYPECORPORATION values(500235062152, 'Blodg', 1995889169);
insert into CTYPECORPORATION values(354085050542, 'Curtis Westell', 1967117842);
insert into CTYPECORPORATION values(633110249405, 'Johnathan Chasle', 1903383272);
insert into CTYPECORPORATION values(354409237289, 'Kellina Petrelluzzi', 3791880888);
insert into CTYPECORPORATION values(630455395535, 'Van Dormer', 9796421309);
insert into CTYPECORPORATION values(355153149696, 'Siana Elvins', 6176346747);
insert into CTYPECORPORATION values(560223116918, 'Deborah Hales', 6257892295);
insert into CTYPECORPORATION values(357169932973, 'Graehme Ritchard', 6001255663);
insert into CTYPECORPORATION values(670903137727, 'Nichols Blondin', 1587658610);
insert into CTYPECORPORATION values(358260108799, 'Joseph Touzey', 6835481730);
insert into CTYPECORPORATION values(337941345118, 'Tom Aizikovitch', 3932886219);
insert into CTYPECORPORATION values(353453080593, 'Marcel Maslin', 1139709271);
insert into CTYPECORPORATION values(355516366510, 'Nada Canet', 4435939037);
insert into CTYPECORPORATION values(353540235487, 'Farley Tomlett', 3182052391);

/* SHOWS ALL TUPLES FOR  CTYPECORPORATION TABLE */
SELECT * FROM CTYPECORPORATION;
```

```
/* CREATE THE SPACE FOR THE VISIT TABLE */
Create table VISIT
(VisitNo  char(12) NOT NULL,
CID char(12)  NOT NULL,
PropertyID char(12) NOT NULL,
VDate date NOT NULL,
SDate date NOT NULL,
VEndDate date NOT NULL,
Primary Key (VisitNo),
Foreign Key(CID) REFERENCES CLIENT(CID),
Foreign Key (PropertyID) REFERENCES PROPERTY(PropertyID));

insert into VISIT values(110000000001,357076757958,119011870720, '02/25/2016', '02/25/2016',
'04/25/2016');
insert into VISIT values(110000000002,353868970222,116506187506, '05/31/2018', '05/31/2018',
'07/30/2018');
insert into VISIT values(110000000003,637120442929, 118306051619, '05/09/2019', '05/09/2019','07/8/2019');
insert into VISIT values(110000000004, 677105192081, 119910146670, '04/27/2019', '04/27/2019',
'06/26/2019');
insert into VISIT values(110000000005, 354279768015, 112009157934, '08/01/2017', '08/01/2017',
'09/30/2017');
insert into VISIT values(110000000006, 300887666216, 119607203347, '11/21/2017', '11/21/2017',
'01/20/2018');
insert into VISIT values(110000000007, 491732531713, 114907263829, '01/22/2019', '01/22/2019',
'03/23/2019');
insert into VISIT values(110000000008, 352966942563, 116590827911, '07/11/2018', '07/11/2018',
'09/9/2018');
insert into VISIT values(110000000009, 553026708434, 115201831281, '10/12/2019', '10/12/2019',
'12/11/2019');
insert into VISIT values(110000000010, 559576298989, 111701198556, '06/09/2017', '06/09/2017',
'08/8/2017');
insert into VISIT values(110000000011, 560222557009, 114110153592, '07/04/2018', '07/04/2018',
'09/2/2018');
insert into VISIT values(110000000012, 432408784716, 117917310741, '04/23/2016', '04/23/2016',
'06/22/2016');
insert into VISIT values(110000000013, 560221698167, 118997219928, '12/17/2016', '12/17/2016',
'02/15/2017');
insert into VISIT values(110000000014, 357949593026, 113456788989, '12/18/2015', '12/18/2015',
'02/16/2016');
insert into VISIT values(110000000015, 356399900918, 114456785945, '11/19/2019', '11/19/2019',
'01/18/2020');
insert into VISIT values(110000000016, 356633117549, 112801684917, '11/20/2017', '11/20/2017',
'01/19/2018');
insert into VISIT values(110000000017, 500235062152, 111899721992, '03/18/2017', '03/18/2017',
'05/17/2017');
insert into VISIT values(110000000018, 354085050542, 110668642690, '11/09/2016', '11/09/2016',
'01/8/2017');
```

```
insert into VISIT values(110000000019, 633110249405, 119343234788, '10/05/2019', '10/05/2019',
'12/4/2019');
insert into VISIT values(110000000020, 354409237289, 115619751617, '05/05/2016', '05/05/2016',
'07/4/2016');
insert into VISIT values(110000000021, 630455395535, 110963644282, '10/21/2016',
'10/21/2016','12/20/2016');
insert into VISIT values(110000000022, 355153149696, 118644679159, '04/21/2019', '04/21/2019',
'06/20/2019');
insert into VISIT values(110000000023, 560223116918, 114942263294, '02/11/2020', '02/11/2020',
'04/11/2020');
insert into VISIT values(110000000024, 357169932973, 117470165907, '05/22/2015', '05/22/2015',
'07/21/2015');
insert into VISIT values(110000000025, 670903137727, 118407919297, '12/17/2015', '12/17/2015',
'02/15/2016');
insert into VISIT values(110000000026, 358260108799, 115369762538, '06/24/2015', '06/24/2015',
'08/23/2015');
insert into VISIT values(110000000027, 337941345118, 112520538605, '05/22/2016', '05/22/2016',
'09/22/2016');
insert into VISIT values(110000000028, 353453080593, 114654577224, '08/21/2018', '08/21/2018',
'11/21/2018');
insert into VISIT values(110000000029, 355516366510, 118398541900, '09/21/2017','09/21/2017',
'12/21/2017');
insert into VISIT values(110000000030, 353540235487, 160310023288, '11/21/2018','11/21/2018', '1/21/2019');

/* SHOWS ALL TUPLES FOR  VISIT TABLE */
SELECT * FROM VISIT;

/* CREATE THE SPACE FOR THE EMPLOYEESERIVCEVISIT TABLE */

Create table EMPLOYEESERVICEVISIT
(VisitNo char(12) NOT NULL,
EID char(12) NOT NULL,
SID char(12) NOT NULL,
Foreign Key (VisitNo) REFERENCES VISIT(VisitNo),
Foreign Key(EID) REFERENCES EMPLOYEE(EID),
Foreign Key (SID) REFERENCES SERVICE (SID),
Primary key (VisitNo, EID, SID));

insert into EMPLOYEESERVICEVISIT values(110000000001 , 025061470070 , 10000000026)
insert into EMPLOYEESERVICEVISIT values(110000000001 , 058831461312 , 10000000007)
insert into EMPLOYEESERVICEVISIT values(110000000003 , 074757434885 , 10000000012)
insert into EMPLOYEESERVICEVISIT values(110000000003 , 110833031276 , 10000000014)
insert into EMPLOYEESERVICEVISIT values(110000000004 , 165941127521 , 10000000015)
insert into EMPLOYEESERVICEVISIT values(110000000004 , 225353730378 , 10000000000)
insert into EMPLOYEESERVICEVISIT values(110000000005 , 264698979946 , 10000000018)
insert into EMPLOYEESERVICEVISIT values(110000000005 , 332108469901 , 10000000003)
insert into EMPLOYEESERVICEVISIT values(110000000006 , 386554849807 , 10000000004)
insert into EMPLOYEESERVICEVISIT values(110000000006 , 459881896308 , 10000000024)
insert into EMPLOYEESERVICEVISIT values(110000000007 , 647123698494 , 10000000006)
```

```
insert into EMPLOYEESERVICEVISIT values(110000000007 , 786002859575 , 10000000017)
insert into EMPLOYEESERVICEVISIT values(110000000009 , 811480423384 , 10000000008)
insert into EMPLOYEESERVICEVISIT values(110000000009 , 847690350105 , 10000000020)
insert into EMPLOYEESERVICEVISIT values(110000000010 , 903799201576 , 10000000011)
insert into EMPLOYEESERVICEVISIT values(110000000010 , 025061470070 , 10000000026)
insert into EMPLOYEESERVICEVISIT values(110000000011 , 058831461312 , 10000000007)
insert into EMPLOYEESERVICEVISIT values(110000000011 , 074757434885 , 10000000012)
insert into EMPLOYEESERVICEVISIT values(110000000012 , 110833031276 , 10000000014)
insert into EMPLOYEESERVICEVISIT values(110000000012 , 165941127521 , 10000000015)
insert into EMPLOYEESERVICEVISIT values(110000000013 , 225353730378 , 10000000000)
insert into EMPLOYEESERVICEVISIT values(110000000013 , 264698979946 , 10000000018)
insert into EMPLOYEESERVICEVISIT values(110000000014 , 332108469901 , 10000000003)
insert into EMPLOYEESERVICEVISIT values(110000000014 , 386554849807 , 10000000004)
insert into EMPLOYEESERVICEVISIT values(110000000015 , 459881896308 , 10000000024)
insert into EMPLOYEESERVICEVISIT values(110000000015 , 647123698494 , 10000000006)
insert into EMPLOYEESERVICEVISIT values(110000000016 , 786002859575 , 10000000017)
insert into EMPLOYEESERVICEVISIT values(110000000016 , 811480423384 , 10000000008)
insert into EMPLOYEESERVICEVISIT values(110000000017 , 847690350105 , 10000000020)
insert into EMPLOYEESERVICEVISIT values(110000000017 , 903799201576 , 10000000011)
insert into EMPLOYEESERVICEVISIT values(110000000018 , 046073559069 , 10000000001)
insert into EMPLOYEESERVICEVISIT values(110000000018 , 071380725550 , 10000000028)
insert into EMPLOYEESERVICEVISIT values(110000000019 , 074771536235 , 10000000019)
insert into EMPLOYEESERVICEVISIT values(110000000019 , 147162033335 , 10000000021)
insert into EMPLOYEESERVICEVISIT values(110000000020 , 203893758715 , 10000000016)
insert into EMPLOYEESERVICEVISIT values(110000000020 , 241815730717 , 10000000023)
insert into EMPLOYEESERVICEVISIT values(110000000021 , 271248371662 , 10000000027)
insert into EMPLOYEESERVICEVISIT values(110000000021 , 339139055281 , 10000000010)
insert into EMPLOYEESERVICEVISIT values(110000000022 , 451097310971 , 10000000013)
insert into EMPLOYEESERVICEVISIT values(110000000022 , 528800277700 , 10000000005)
insert into EMPLOYEESERVICEVISIT values(110000000023 , 673881520786 , 10000000009)
insert into EMPLOYEESERVICEVISIT values(110000000023 , 799635302453 , 10000000029)
insert into EMPLOYEESERVICEVISIT values(110000000024 , 845724229693 , 10000000030)
insert into EMPLOYEESERVICEVISIT values(110000000024 , 862696682857 , 10000000022)
insert into EMPLOYEESERVICEVISIT values(110000000025 , 954093009611 , 10000000002)
insert into EMPLOYEESERVICEVISIT values(110000000025 , 046073559069 , 10000000001)
insert into EMPLOYEESERVICEVISIT values(110000000026 , 071380725550 , 10000000028)
insert into EMPLOYEESERVICEVISIT values(110000000026 , 074771536235 , 10000000019)
insert into EMPLOYEESERVICEVISIT values(110000000027 , 147162033335 , 10000000021)
insert into EMPLOYEESERVICEVISIT values(110000000027 , 203893758715 , 10000000016)
insert into EMPLOYEESERVICEVISIT values(110000000028 , 241815730717 , 10000000023)
insert into EMPLOYEESERVICEVISIT values(110000000028 , 271248371662 , 10000000027)
insert into EMPLOYEESERVICEVISIT values(110000000029 , 339139055281 , 10000000010)
insert into EMPLOYEESERVICEVISIT values(110000000029 , 451097310971 , 10000000013)
insert into EMPLOYEESERVICEVISIT values(110000000030 , 528800277700 , 10000000005)
insert into EMPLOYEESERVICEVISIT values(110000000030 , 673881520786 , 10000000009)
insert into EMPLOYEESERVICEVISIT values(110000000002 , 799635302453 , 10000000029)
insert into EMPLOYEESERVICEVISIT values(110000000002 , 845724229693 , 10000000030)
insert into EMPLOYEESERVICEVISIT values(110000000008 , 862696682857 , 10000000022)
insert into EMPLOYEESERVICEVISIT values(110000000008 , 954093009611 , 10000000002)
```

```
/* SHOWS ALL TUPLES FOR  EMPLOYEESERVICEVISIT TABLE */
SELECT * FROM EMPLOYEESERVICEVISIT;

/* CREATE THE SPACE FOR THE VISITADDFEE TABLE */

Create table VISITADDFEE
(VisitNo char(12) NOT NULL,
AddFeeDescription varchar(40),
AddFeeAmount  decimal (10,2)
Foreign Key (VisitNo) REFERENCES VISIT(VisitNo),
PRIMARY KEY (VisitNo, AddFeeDescription, AddFeeAmount));

insert into VISITADDFEE  values (110000000014, 'Repair', 172.74);
insert into VISITADDFEE  values (110000000023, 'Repair', 163.16);
insert into VISITADDFEE  values (110000000009, 'Repair', 140.86);
insert into VISITADDFEE  values (110000000025, 'Maintaince', 195.72);
insert into VISITADDFEE  values (110000000009, 'Repair', 138.59);
insert into VISITADDFEE  values (110000000001, 'Maintaince', 194.59);
insert into VISITADDFEE  values (110000000022, 'Repair', 196.45);
insert into VISITADDFEE  values (110000000028, 'Repair', 168.71);
insert into VISITADDFEE  values (110000000022, 'Repair', 109.92);
insert into VISITADDFEE  values (110000000003, 'Maintaince', 148.19);
insert into VISITADDFEE  values (110000000019, 'Maintaince', 178.14);
insert into VISITADDFEE  values (110000000022, 'Maintaince', 138.49);
insert into VISITADDFEE  values (110000000002, 'Maintaince', 194.09);
insert into VISITADDFEE  values (110000000008, 'Maintaince', 187.41);
insert into VISITADDFEE  values (110000000005, 'Repair', 181.39);
insert into VISITADDFEE  values (110000000009, 'Maintaince', 158.61);
insert into VISITADDFEE  values (110000000025, 'Repair', 191.89);
insert into VISITADDFEE  values (110000000013, 'Repair', 111.0);
insert into VISITADDFEE  values (110000000008, 'Maintaince', 162.2);
insert into VISITADDFEE  values (110000000011, 'Repair', 184.51);
insert into VISITADDFEE  values (110000000022, 'Maintaince', 139.59);
insert into VISITADDFEE  values (110000000014, 'Maintaince', 112.31);
insert into VISITADDFEE  values (110000000013, 'Repair', 119.06);
insert into VISITADDFEE  values (110000000021, 'Repair', 150.71);
insert into VISITADDFEE  values (110000000024, 'Maintaince', 118.1);
insert into VISITADDFEE  values (110000000014, 'Repair', 165.25);
insert into VISITADDFEE  values (110000000015, 'Repair', 101.35);
insert into VISITADDFEE  values (110000000019, 'Maintaince', 152.21);
insert into VISITADDFEE  values (110000000020, 'Maintaince', 194.34);
insert into VISITADDFEE  values (110000000006, 'Maintaince', 125.98);

/* SHOWS ALL TUPLES FOR  VISITADDFEE TABLE */
SELECT * FROM VISITADDFEE;
```

```
----------------------------------------------------
/* INTEGRETY QUERIES */
----------------------------------------------------

/*PROOF OF UNIQUENESS IN ALL PRIMARY VALUES*/
Select PropertyID, Count(PropertyID) as TimeofApperance from PROPERTY
Group by PropertyID
Having Count(PropertyID) > 1;

/*PROOF OF UNIQUENESS IN ALL PRIMARY VALUES*/
Select EID, Count(EID) as TimeofApperance from EMPLOYEE
Group by EID
Having Count(EID) > 1;

/*PROOF OF UNIQUENESS IN ALL PRIMARY VALUES*/
Select SID, Count(SID) as TimeofApperance from SERVICE
Group by SID
Having Count(SID) > 1;

/*PROOF OF UNIQUENESS IN ALL PRIMARY VALUES*/
Select CID, Count(CID) as TimeofApperance from CLIENT
Group by CID
Having Count(CID) > 1;

/*PROOF OF UNIQUENESS IN ALL PRIMARY VALUES*/
Select CTCorporationID, Count(CTCorporationID) as TimeofApperance from CTYPECORPORATION
Group by CTCorporationID
Having Count(CTCorporationID) > 1;

/*PROOF OF UNIQUENESS IN ALL PRIMARY VALUES*/
Select CTPersonID, Count(CTPersonID) as TimeofApperance from CTYPEPERSON
Group by CTPersonID
Having Count(CTPersonID) > 1;

/*PROOF OF UNIQUENESS IN ALL PRIMARY VALUES*/
Select VisitNo, Count(VisitNo) as TimeofApperance from VISIT
Group by VisitNo
Having Count(VisitNo) > 1;

/*PROOF OF UNIQUENESS IN ALL PRIMARY VALUES*/
Select VisitNo, AddFeeAmount, AddFeeDescription, Count(*) AS TimeofApperance from VISITADDFEE
Group by VisitNo, AddFeeAmount, AddFeeDescription
Having COUNT(VisitNo) > 1 AND COUNT(AddFeeAmount) > 1 AND COUNT(AddFeeDescription) > 1;

/*PROOF OF UNIQUENESS IN ALL PRIMARY VALUES*/
Select VisitNo, SID, EID, Count(*) AS TimeofApperance from EMPLOYEESERVICEVISIT
Group by VisitNo, SID, EID
Having COUNT(VisitNo) > 1 AND COUNT(SID) > 1 AND COUNT(EID) > 1;
```

```
/* PROOF OF NO NULL VALUES IN PRIMARY KEY ATTRIBUTES */
SELECT PROPERTYID
 FROM PROPERTY
  WHERE PROPERTYID is NULL ;

/* PROOF OF NO NULL VALUES IN PRIMARY KEY ATTRIBUTES */
SELECT EID
 FROM EMPLOYEE
  WHERE EID is NULL ;

 /* PROOF OF NO NULL VALUES IN PRIMARY KEY ATTRIBUTES */
 SELECT SID
  FROM SERVICE
    WHERE SID is NULL ;

/* PROOF OF NO NULL VALUES IN PRIMARY KEY ATTRIBUTES */
SELECT CID
  FROM CLIENT
    WHERE CID is NULL ;

/* PROOF OF NO NULL VALUES IN PRIMARY KEY ATTRIBUTES */
SELECT CTCorporationID
  FROM CTYPECORPORATION
    WHERE CTCorporationID is NULL ;

/* PROOF OF NO NULL VALUES IN PRIMARY KEY ATTRIBUTES */
SELECT CTPersonID
  FROM CTYPEPERSON
    WHERE  CTPersonID is NULL ;

/* PROOF OF NO NULL VALUES IN PRIMARY KEY ATTRIBUTES */
SELECT VisitNo
  FROM VISIT
    WHERE  VisitNo is NULL ;

/* PROOF OF NO NULL VALUES IN PRIMARY KEY ATTRIBUTES */
SELECT VisitNo, EID, SID
  FROM EMPLOYEESERVICEVISIT
    WHERE VisitNo is NULL ;

/* PROOF OF NO NULL VALUES IN PRIMARY KEY ATTRIBUTES */
SELECT VisitNo
  FROM VISITADDFEE
    WHERE VisitNo is NULL ;

/* PROOF OF REFRENTIAL INTEGRITY */
SELECT V.VisitNo, VF.VisitNo
 FROM VISIT V JOIN  VisitAddFee VF ON V.VisitNo = VF.VisitNo
  WHERE V.VisitNo = VF.VisitNo;
```

```
/* PROOF OF REFRENTIAL INTEGRITY */
 SELECT E.EID, EV.EID
 FROM EMPLOYEE E JOIN EMPLOYEESERVICEVISIT EV ON E.EID = EV.EID
  WHERE E.EID = EV.EID;

 /* PROOF OF REFRENTIAL INTEGRITY */
 SELECT S.SID, EV.SID
  FROM SERVICE S JOIN EMPLOYEESERVICEVISIT EV ON S.SID = EV.SID
   WHERE S.SID = EV.SID;

/* PROOF OF REFRENTIAL INTEGRITY */
 SELECT V.VisitNo, EV.VisitNo
  FROM VISIT V JOIN EMPLOYEESERVICEVISIT EV ON V.VisitNo = EV.VisitNo
   WHERE V.VisitNo = EV.VisitNo;

 /* PROOF OF REFRENTIAL INTEGRITY */
 SELECT V.PropertyID, P.PropertyID
  FROM VISIT V JOIN PROPERTY P ON V.PropertyID = P.PropertyID
   WHERE V.PropertyID = P.PropertyID;

/* PROOF OF REFRENTIAL INTEGRITY */
 SELECT V.CID,C.CID
  FROM VISIT V JOIN CLIENT C ON V.CID=C.CID
   WHERE V.CID=C.CID;

/* PROOF OF REFRENTIAL INTEGRITY */
 SELECT CP.CTPersonID,C.CID
  FROM CTYPEPERSON CP RIGHT JOIN CLIENT C ON CP.CTPersonID=C.CID
    WHERE CP.CTPersonID=C.CID;

/* PROOF OF REFRENTIAL INTEGRITY */
 SELECT CT.CTCorporationID,C.CID
  FROM CTYPECORPORATION CT RIGHT JOIN CLIENT C ON CT.CTCorporationID=C.CID
    WHERE CT.CTCorporationID=C.CID;

-------------------------------
/*Basic Queries*/
-------------------------------

/*Number One*/
/*Insert a new client with no last name (e.g. a corporation) and a Canadian zip code (6 letters and numbers)
should  */

insert into CLIENT values(311245789012, NULL, '265 Segovia PL' , 'Montreal', 'QC', 'H3Z2Y7', 5106480863,
'kxhm@cisco.com', 'Corporation', '4/18/2020');

/* Basic Query to show the new client inserted */
```

```
SELECT *
    FROM CLIENT;

/*Number Two*/
/* Insert a new client without a phone number should fail. */
insert into CLIENT values(311245789012, 'Ichika Inc', '458 Canyon Heights' , 'San Francisco', 'CA', '94539', NULL,
'IchikaInc@cisco.com', 'Corporation', '8/18/2020');

/* Number three */
/*Delete VisitNo */
DELETE FROM VISIT
  WHERE VisitNo = '110000000020'

/* Basic Query that shows VisitNo 110000000020 is deleted from all three tables  VISIT, EMPLOYEESERVICEVISIT,
and VISITADDFEE by using ON DELETE CASCADE */
SELECT V.VisitNo "VisitNo in Visit" , ESV.VisitNo "VisitNo in EMPLOYEESERVICEVISIT" , VAF.VisitNo  " VisitNo in
VISITADDFEE"
  FROM VISIT V, EMPLOYEESERVICEVISIT ESV, VISITADDFEE VAF
    WHERE V.VisitNo = '110000000020'
           AND  ESV.VisitNo = '110000000020'

/*Number Four */
/*Adding a new Client FIRST and then New Property SECOND */

insert into Client
          values (254312897641, 'Quarry Inc' , '872 Alvarado', 'Tempe', 'AZ', 85281 ,'4809124672',
'QuarryInc@gmail.com','Corporation','8/14/2019');

insert into Property
          values  (125498065481, 'Arcadia Village', '524 Bowers Street', 'Palm Beach','FL', 33411 ,4, 2,'Tile',
'Wood', 1547, 2002, 254312897641);


/*Number Five */
/*Vlaues to Show that Client needs to be add first */
insert into Property
          values  (108576431209, 'Baryyesa Village', '741 Timbland Road', 'Palm Beach','FL', 33411 ,5, 2,'Shingle',
'Wood', 2540, 2000, 280126340762);

insert into Client
          values (280126340762, 'Smith' , '843 Twigs Street', 'Riverside', 'CA', 94678 ,'9515509926',
'AaronSmith@gmail.com','Person','11/14/2019');


/*Number Six */
/* Insert New Employee Value */
insert into EMPLOYEE  values (845724229694, 'John', 'Lee', 20.42, '54 Mission Road', 'Orlando', 'FL', '32830',
'7277695433', 'Property Marketing');
```

```
/* INSERT NEW VISIT VALUE */
insert into VISIT values(110000000031, 353540235487, 160310023288, '12/21/2018','12/21/2018', '2/21/2019');

/* Insert New EMPLOYEESERVICECIST VALUE */
insert into EMPLOYEESERVICEVISIT values(110000000031 , 845724229694, 10000000012 )

/*Existing Service*/
select * from SERVICE
        where SID = 10000000012;

/* Show all the tuples in the EMPLOYEESERVICE Table after new employee is entered */
SELECT *
  FROM EMPLOYEESERVICEVISIT;

/*Basic Query to show the EID,SID, and VisitNo in the EMPLOYEESERVICETABLE */
SELECT EID,SID, VisitNo
   FROM EMPLOYEESERVICEVISIT
    WHERE VisitNo = '110000000031 '
        AND EID = '845724229694'
        AND SID = '10000000012';

/*Number Seven*/
/* Composite Key is not Unique, repeated EID,  therefore test fails  */
insert into EMPLOYEESERVICEVISIT values(110000000032 , 074771536235 , 10000000019)

/*Number Eight*/
/* fail insert a new client since no value for start date */
insert into CLIENT values(288921451378, 'Lunar Inc', '2855 Perry Way' , 'San Jose', 'CA', 94538,4089458124,
'LunarInc@cisco.com', 'Corporation', 'NULL');

/*Number Nine*/
/* fail to insert a visit for a client that is not in the database*/
/* Verifies foreign key constraint on visit CID*/

insert into VISIT values(110000000032,100000000041, 897632901234 , '02/25/2019', '02/25/2019',
'04/25/2019');

/*Number TEN*/
/*Adding a new client without email should fail.*/

Insert into CLIENT values(311245789012, Ngo', '577 Montague' , 'Irvine', 'CA', '98723',4089928723, NULL,
'Corporation', '11/18/2018');
```

```
-----------------------------------------------------------
/*Advanced Queries */
-----------------------------------------------------------

/*Advanced Q1  Find the state has more than 1 client*/
select CState 'State', count(CState) 'Number of Clients in each State more than 1'
from CLIENT
group by CState
having count(CState) > 1;

/*Number Two */
/* Employees residing in the same states as a client */
SELECT DISTINCT EFirstName "Employee First Name", ELastName "Employee Last Name", EState "Employee
State",
CState "Client State"
  FROM EMPLOYEE
    JOIN CLIENT
            ON EState=CState
  GROUP BY EFirstName, ELastName, EState, CState
     HAVING EState = CState
ORDER BY CState;

/*Number Three */
/*Test Total charge for each visit where there are multiple services performed.*/
Select DISTINCT ESV.VisitNo, sum(AddFeeAmount)+sum(SRate) AS TotalCharge
From VisitAddFee VAF
Join EmployeeServiceVisit ESV on VAF.VisitNo = ESV. VisitNo
Join Service S on ESV.SID = S.SID
Where ESV.VisitNo in
 (Select ESV.VisitNo
from EmployeeServiceVisit ESV
          left join Service S on S.SID = ESV.SID
                    Group by VisitNo
                              Having Count(ESV.SID)>1)
Group by ESV.VisitNo;

/*Number Four */
/*Test Total charge for each visit where there are multiple services performed.*/
Select DISTINCT ESV.VisitNo, sum(AddFeeAmount)+sum(SRate) AS TotalCharge
From VisitAddFee VAF
Join EmployeeServiceVisit ESV on VAF.VisitNo = ESV. VisitNo
Join Service S on ESV.SID = S.SID
Where ESV.VisitNo in
 (Select ESV.VisitNo
from EmployeeServiceVisit ESV
          left join Service S on S.SID = ESV.SID
                    Group by VisitNo
                              Having Count(ESV.SID)>1)
Group by ESV.VisitNo;
```

```
/*Number Five */
/*A list of clients who have ordered pest control.*/

Select CName 'Clients who have ordered pest control'
From Client
Where CID IN
(Select CID
From VISIT
                    Where VisitNo IN
                              (Select VisitNo
                                        From EmployeeServiceVisit
                                                  Where SID =
                                                            (Select SID
                                                                      From Service
                                                                                Where SDescription = 'Pest Control')));

/*Number Six*/
/* Clients requiring multiple visits for a single service.*/
Select CName from CLIENT
   Where CID In
          (Select CID
                    from VISIT
                              Where VisitNo IN
                                        (Select VisitNo
                                                  from EmployeeServiceVisit
                                                            Where SID in
                                                                      (Select ESV.SID
                                                                                from Service S
                                                                                          left join EmployeeServiceVisit ESV on
S.SID = ESV.SID
                                                                                                    Group by ESV.sid
                                                                                                              Having
Count(ESV.VisitNo)>1)))


/* Number Seven */
/*Display the employees who have visited the property and the property name  they visited*/
create view [Employee Visited] as
select E.EFirstName "Employee First Name" , E. ELastName "Employee Last Name" ,P. PName "Property Name"
,P.PAddress "Property Address"
from PROPERTY P join VISIT V
on P.PropertyID=V.PropertyID
join EMPLOYEESERVICEVISIT ESV
on V.VisitNo=ESV.VisitNo
join EMPLOYEE E
on E.EID=ESV.EID;
```

```
/* Shows all employees and visited properties */
Select *
  FROM [Employee Visited];


/*Number Eight */
/*Display the total fee for each visit*/
create view [cost of visit] as
Select DISTINCT ESV.VisitNo, sum(AddFeeAmount)+sum(SRate) AS TotalCharge from
VisitAddFee VAF Join EmployeeServiceVisit ESV on VAF.VisitNo = ESV. VisitNo
Join Service S on ESV.SID = S.SID
Group by ESV.VisitNo;

/*Shows the total charge for each Visit Number */
Select *
  FROM [cost of visit];


/*Number Nine */
/* Display the clients names and years of service for each client*/
create view yearsofservice as
select C.CName "Client's' Name", datediff(year,V.VDate,getdate()) 'years of service'
from Client C join VISIT V
on C.CID=V.CID;

/*Client's Name and the Years of Services */
Select *
  FROM yearsofservice;

-----------------------------------------------------
*/SECTION 1 - TRANSACTIONS/*
-----------------------------------------------------

*/Transactions 1. When adding a new client, also update the corresponding ¡®child¡¯ table.
Add the property for the client and link the client with the property.
HH*/

Begin Transaction;

insert into CLIENT
        values(123456789012, 'Hank', '15 Wall Street', 'Tempe', 'AZ', 85281, 4801231234, 'hank@hhy.com',
'Person', '3/24/2020');
insert into CTYPEPERSON
        values(123456789012, '3567177685829190');
insert into Property
        values(123123123123, 'Tempe Center', '15 Wall Street', 'Tempe','AZ', 85281 ,4, 2,'Tile', 'Wood', 1547,
2002,123456789012);

Select *
```

```
        From CTYPEPERSON
                Where CTPersonID = '123456789012';
Select *
        From CLIENT
                Where CID = '123456789012';
Select *
        From PROPERTY
                Where PropertyID = '123123123123';

Rollback;  ---execute only if correction is required
Commit; ------execute only if entry is correct

-----
*/Transactions 2. When adding a visit request, also include what is requested in the service request table. (LF)*/

Begin Transaction;

Insert into VISIT
   values(110000000032,357076757958,119011870720, getdate(),(getdate()+1), (getdate()+7));

Insert into EMPLOYEESERVICEVISIT
   values(110000000032 , 025061470070 , 10000000026);

Select *
   From VISIT
      Where VisitNo = 110000000032;

Select *
   From EMPLOYEESERVICEVISIT
      Where VisitNo = 110000000032;

Rollback; ---execute only if correction is required
Commit; ---execute only if entry is correct

---------------------------------------------------
*/ SECTION 2 - TRIGGER/STORED PROCEDURES /*
---------------------------------------------------

/*Trigger / Stored Procedures 1. TRIGGER: Process a service (visit) request. When a new request is added, the trigger will
automatically assign an employee who has the required specialization (if the work is plumbing, assign the corresponding
employee with a plumber specialization). (S Cui)*/

Create Trigger AssignEmployee
ON VISIT
AFTER Insert
AS
```

```
Insert into EMPLOYEESERVICEVISIT (VisitNo, EID, SID)
	Values((Select VisitNo
		From Inserted),
			(Select EID
				From EMPLOYEE
					Where EID =
						(Select TOP 1 EID
							from EMPLOYEE
								Where ESpecial =
								(Select TOP 1 SDescription from
SERVICE)),
(Select SID
From SERVICE
Where
SDescription =
(Select
TOP 1 SDescription from SERVICE))));

Begin Transaction;

Insert into VISIT
	values (110000000060, 353540235487, 160310023288, '04/25/2020', '04/25/2020', '05/04/2020');

Select ESV.VisitNo, E.ESpecial, S.SDescription from EMPLOYEESERVICEVISIT ESV
		Join EMPLOYEE E
			on ESV.EID = E.EID
		Join SERVICE S
			on ESV.SID = S.SID
	Where VisitNo = 110000000060;

--------
/*Trigger / Stored Procedures 2. PROCEDURE: When an employee has been assigned to perform service and
completes that service,
add a new record to the ServiceCompletionLog to record the season, start date, number of days to complete the
service,
property ID, employee name, specialization. Hint: You will need to create a ServiceCompletionLog to keep track
of this data.
The procedure will be executed after the service has been completed (add the end date to the record). (SChin)*/

/* Table for ServiceCompletionLog */

Create Table ServiceCompletionLog(
ServiceNo int identity (100,10) NOT NULL Primary Key,
VisitNo char(12) Not Null Foreign Key References Visit(VisitNo),
SDate date,
NumberOfDays int,
PropertyID char(12) Foreign Key References Property(PropertyID),
Season varchar(20),
EFirstName varchar(15),
```

```
ESpecial varchar(40));

/*Show all values for the Service Completion Log */
Select * From ServiceCompletionLog


/*Create Procedure */
Create Procedure CompletedService
@VisitNo char(12)
As
Insert Into ServiceCompletionLog(VisitNo, SDate, NumberOfDays, PropertyID, Season, EFirstName, ESpecial)
Values(@VisitNo,
   (Select V.SDate From VISIT V
      Where @VisitNo = V.VisitNo),
       (Select DATEDIFF(Day, SDate, VEndDate) As 'Number Of Days Worked' From VISIT V
         Where @VisitNo = V.VisitNo),
          (Select PropertyID From VISIT V
            Where @VisitNo = V.VisitNo),
             (Select Season From VISIT V
               Where @VisitNo = V.VisitNo),
                (Select E.EFirstName From EMPLOYEE E, EMPLOYEESERVICEVISIT ESV, VISIT V
                  Where E.EID = ESV.EID and ESV.VisitNo = v.VisitNo and @VisitNo = V.VisitNo),
                    (Select E.ESpecial From EMPLOYEE E, EMPLOYEESERVICEVISIT ESV, VISIT v
                      where E.EID = ESV.EID And ESV.VISITNo = V.VisitNo and @VisitNo = V.VisitNo));


/* Show the new value in CompletedService */
EXEC CompletedService '110000000031';

Select *
  From ServiceCompletionLog;

/* Show value in the Visit Table */
Select *
   From VISit;


-----------------------------------------------------
*/ SECTION 3 - INDEXES /*
-----------------------------------------------------
/*Index 1.(2) Identify the attributes (at least 2) that should have secondary indexes defined (cluster index is
already created) to speed up the query
you will define in #3. Take a snapshot of the tables you will use (select * from each table and show the attributes
and a few rows of data in each one).*/

select * from VISITADDFEE;
select * from VISIT;
```

/*Index 2. (2) Write the SQL commands to create the secondary indexes for the 2 attributes identified in #1. Give reasons for each attribute selected (use comments).
Take a snapshot of the SQL code for both indexes. */
create index AddFeeAmountIDX on VISITADDFEE(AddFeeAmount); ----Since we want to know AddFeeAmount that are more than 50, we want to execute this faster
create index VDateIDX on VISIT(VDate); -----Since we need to know the year of each visit, we want to execute this faster

/*index 3. (2) Create an advanced join query and execute (use any multiple tables you wish).
Show the query, the data results, the time to complete, and the query plan (take snapshots of each).
The idea here is to create a query that will tax the computer resources ¨C force the DBMS to use its resources.*/

```
set statistics time on;
select distinct V.VisitNo'Last year visits visitaddfee more than 50'
        from VISITADDFEE VAF join EMPLOYEESERVICEVISIT ESV
                                        on VAF.VisitNo=ESV.VisitNo
                                join VISIT V
                                        on ESV.VisitNo=V.VisitNo
where year(V.VDate)= year(getdate())-1
and AddFeeAmount > 50;
```

/*index 4. (2) Optimize & execute the query in #3. Show the query, the data results, the time to complete, and the query plan (take snapshots of each).*/

```
select V.VisitNo'Last year visits visitaddfee more than 50'
        from VISIT V
                where year(V.VDate)= year(getdate())-1
                and V.VisitNo in
                        (select VisitNo
                                from EMPLOYEESERVICEVISIT
                                        where VisitNo in
                                                (select VisitNo
                                                        from VISITADDFEE
                                                                where AddFeeAmount>50));
```

/*index 5. (2) Comment on the differences between the results in parts 3 & 4. How did you expect the query plans to be different? Did you gain time, or lose time ¨C why?
Based on the query that you executed in part 3, what did you expect to happen and why?*/

----in Q3, i used inner join, it shows that index scan cost 25% , index seek cost 73%, and 2% in joins,
---in Q4, i used nested query, 26% in index scan, 75% in index seek.
---it shows that inner join cost resources to join table, while nested do not need to cost the resource.
---also in Q3, i expect the processing time to be shorter, because i use index that should help shorten the processing time.

/ SECTION 4 - VIEWS /

```
-----------------------------------------------------
/* View of Best Selling Service Developed by Suqi Cui (S Cui)*/

Create view BestSellingService as
Select ESV.SID, SDescription, Count(ESV.SID) ¡®Total Sold¡¯, SRate
From EMPLOYEESERVICEVISIT ESV Join SERVICE S On ESV.SID = S.SID
Group By ESV.SID, SDescription, SRate

Select SDescription ¡®Service Description¡¯, [Total Sold], SRate as Price, SRate*[Total Sold] as ¡®Total Revenue¡¯
from BestSellingService
Order by 2 DESC
-----

/*Haoyuan He -- create view for revenue each year (HH) */

create view REVENUE as
   select V.VisitNo, VDate,
         S.SID, SDescription, SRate,
         AddFeeAmount
   from VISITADDFEE VAF join EMPLOYEESERVICEVISIT ESV
                     on VAF.VisitNo = ESV.VisitNo
                  join SERVICE S
                     on ESV.SID = S.SID
                  join VISIT V
                     on V.VisitNo=ESV.VisitNo;


select * from REVENUE;

-----
/*Additional revenue each employee earned from additional visits (S Chin) */
Create View EmployeeEarnedAdditionalVisit As
Select E.EID "Employee ID", E.EFirstName "Employee Name", AddFeeDescription,
      AddFeeAmount
     From EMPLOYEE E Join EMPLOYEESERVICEVISIT ESV On E.EID = ESV.EID
                 Join Visit V On ESV.VisitNo = V.VisitNo
                 Join VISITADDFEE VAF On V.VisitNo = VAF.VisitNo

Select * From EmployeeEarnedAdditionalVisit

-------
/* Total Revenue earned from each client type (MS)*/

Create View RevenueByClientType
AS
          Select E.visitNo, c.CType, SUM(S.Srate) as "Total Service Costs",
                    SUM(AF.AddFeeAmount) as "Total addFee"
         From EMPLOYEESERVICEVISIT E
                              join Service s
```

```
                                        on e.SID = S.SID
                    join Visit V
                                        on E.VisitNo = V.VisitNo
                    join VisitAddFee AF
                                        on V.VisitNo = AF.VISITNO
                    Join Client c
                                        on V.CID = C.CID
                    Group by  c.ctype, c.cid, E.VisitNo
Order by E.Visitno

Select * From RevenueByClientType

   Select Ctype as "Client Type",
                    SUM("Total Service Costs") as "Total Service Costs",
          SUM("Total addFee") as "Total Add Fee Amount"
          From RevenueByClientType
          Group by Ctype
------
/*Clients of different types in each state (GL)*/
Create View Clientsperstate
AS

Select CState "State", CType "Type", Count(CState)"Client"
          FROM CLIENT C
                    GROUP BY CState, CType;
Select *
          From Clientsperstate;

------
* Create view of employees' EID, PayRate and Specialty(LF) */

CREATE VIEW EmployeePaySpeciality
AS

SELECT e.EID, e.EPaidRate "Rate of Pay", e'ESpecial "Speciality"
          FROM EMPLOYEE e;

SELECT *
          FROM EmployeePaySpeciality;

/*1. State that has the most owners.*/
select CState'State',count(CState)'Number of owners'
from CLIENT
group by CState
order by 2 desc;


/*2. Number/list of owners in each state.*/
select CState'State',count(CState)'Number of owners'
```

```
from CLIENT
group by CState
order by 2;

/*3. Total number of visits for each client for each season.*/
select CID, count(VisitNo)'number of visits', VDate'date'
from VISIT
group by CID,VDate
order by 3;

/*4. Total charge for each visit where there are multiple services performed.*/
Select DISTINCT ESV.VisitNo, sum(AddFeeAmount)+sum(SRate) AS TotalCharge from
VisitAddFee VAF Join EmployeeServiceVisit ESV on VAF.VisitNo = ESV. VisitNo
Join Service S on ESV.SID = S.SID
Group by ESV.VisitNo
having count(ESV.VisitNo)>1;

/*5. A list of clients who have ordered pest control.*/
select CName
from CLIENT
where CID in
(select CID
from VISIT
where VisitNo in
(select VisitNo
from EMPLOYEESERVICEVISIT
where SID in
(select SID
from SERVICE
where SDescription = 'Pest Control')))

/*6. The service taking the most time/number of employees.*/
select SDescription, count(EID)'number of employees'
from SERVICE S join EMPLOYEESERVICEVISIT ESV
on S.SID=ESV.SID
group by SDescription
order by 2 desc;

/*7. Employees residing in the same state as a client.*/
select EFirstName, ELastName
from EMPLOYEE
where EID in
(select EID
from EMPLOYEESERVICEVISIT
where VisitNo in
(select VisitNo
from VISIT
where CID in
(select CID
```

```
from CLIENT
where CState = EState)));

/*8. List of employees performing the most services.*/
select EFirstName, ELastName, count(SID)'services'
from EMPLOYEE E join EMPLOYEESERVICEVISIT ESV
on E.EID=ESV.EID
group by EFirstName,ELastName
order by 3 desc;

/*9. Total revenue received last year.*/
Select  sum(AddFeeAmount)+sum(SRate) AS TotalCharge from
VisitAddFee VAF Join EmployeeServiceVisit ESV on VAF.VisitNo = ESV. VisitNo
Join Service S on ESV.SID = S.SID
join VISIT V on V.VisitNo=ESV.VisitNo
group by V.VDate
having year(V.VDate)=year(getdate())-1;

/*10. Total damaged caused by the last hurricane.*/
select sum(AddFeeAmount)'Total Damage'
from VISITADDFEE
where AddFeeDescription = 'Repair';


/*11. Employees making more than the average rate for their job specification.*/
select EFirstName, ELastName
from EMPLOYEE
where EPaidRate>EPaidRate in
(select avg(EPaidRate)
from EMPLOYEE
group by ESpecial)

/*12. Clients requiring multiple visits for a single service.*/
Select CName from CLIENT
   Where CID In
          (Select CID
                 from VISIT
                        Where VisitNo IN
                               (Select VisitNo
                                      from EmployeeServiceVisit
                                             Where SID in
                                                    (Select ESV.SID
                                                           from Service S
                                                                  left join EmployeeServiceVisit ESV on
S.SID = ESV.SID
                                                                         Group by ESV.sid
                                                                                Having
Count(ESV.VisitNo)>1)));
```

Appendix B - Team Resumes, Journal Entries, and Histogram

Haoyuan He
haoyuanh@asu.edu
1655 E University Drive
480-616-8187

Education

Bachelor's Science in Accountancy May 2021
W. P. Carey School of Business, Arizona State University, Tempe, AZ Average GPA 3.64

Community Involvement

Member, Chinese English Language Bridge at ASU August 2017 – Present
Tempe, AZ

- Participated events hosted by CELB, communicated with over 20 students from different countries, built strong connection with them.

Member, IBSA -International Business Scholars Association at ASU August 2017 – Present
Tempe, AZ

- Attended activities and listened to lecture hosted by professors teaching international business classes, learned insights about international business.

Member and Manager, Oxygen wellness organization February 2018 – Present
Tempe, AZ

- Manage the organization along with 10 others, serve overs 70 people, help them maintain a good lifestyle.

Volunteer, the breakfast for new fall Chinese students, Project CSVP August 2018
Tempe, AZ

- Answered different questions from over 400 new Chinese students and helped them get prepared for new semester.
- Worked together with over 20 volunteers and helped the event successfully held.

Volunteer, Chinese Student Conference, Project CSVP February 2018
Tempe, AZ

- Participated different sections of the Chinese Student Conference as a volunteer, worked with other volunteers for over 5 hours and served over 80 guests.

Volunteer, the breakfast for new spring Chinese students, Project CSVP January 2018
Tempe, AZ

- Volunteered along with others to help serve over 50 new students and different guest speakers, helped new incoming students get familiar with ASU.

Relevant Courses

Computer Appls&Info Technology Public Speaking Small Group Communication Intro to Information Systems

Skills

Fluent in oral and written English and Chinese
Microsoft Word, Access, Excel, and PowerPoint

GUOYI LYU

A1 Tempe, AZ 85281 | (480) 765-0534 | Glyu1@asu.edu

Professional Summary

My major is financial data analysis and completed my undergraduate degree at Arizona State University. I took advantage of the holiday time and worked as an intern at the bank and hotel to apply what I have learned. I have had a half-year internship experience.

Skills

- Microsoft Excel
- Fluent in English
- Mandarin
- Python
- SQL

Work History

Intern 06/2018 to 08/2018

Xiaogang Lyu – Liaocheng, Shandong

- Hotel management Intern, Liaocheng, Shandong Province in China June 2018
- Calculate income and expenses every day
- Do an excel form to count the daily expenses

Intern 06/2019 to 08/2019

Ligang Song – Liaocheng, Shandong

- I am responsible for communicating with customers and visiting old customers
- Help the company shoot promotional videos
- Contribute to the excel table to organize data and classify statistics

Education

Bachelor of Science: Business Date Analytics Expected in 05/2022

W.P.Carey School of Business, Arizona State University - Tempe, AZ

GPA: 3.62, New American University Scholarship, Study Abroad Program Masanutan Military School, VA

Accomplishments

I scored A at the Harvard Summit and successfully graduated, and left a good impression on them.

Michael Stangret

1425 S Bonarden Lane, Tempe AZ, 85281 | (847) 946-1070 | Michaelstangret@yahoo.com

EDUCATION

W. P. Carey School of Business, Arizona State University, Tempe, AZ, **May 2021**

Bachelor's of Science in Computer Information Systems

PROFFESIONAL EXPERIENCE

Sales Associate APR 2018 - CURRENT

RoadRunner Sports, Kildeer, IL

- Exceeded company standards by surpassing sales conversion as much as 30% by accurately informing customers about company programs and benefits as well as bringing in more customers through customer referrals.
- Collaborated with coworkers in a fast paced team environment to surpass customer expectations in a positive and professional manner resulting in increased customer retention.

Lodge Associate OCT 2016 - OCT 2017

Dick's Sporting Good's, Deer Park, IL

- Provided exceptional customer service to customers utilizing effective communication and listening skills to solve customer problems and perform department services in a professional manner increasing sales and creating repeat customers.
- Accurately filled out and filed federal documents maintaining company and federal standards by upholding strict regulations.

TECHNICAL SKILLS

- Microsoft Office
- Python
- Java
- SQL
- Documentation

SHARON CHIN

sharonchin98@gmail.com

(510)648-0863

Fremont, CA 94539

SKILLS

- Tableau, Excel, MS word and PowerPoint, basic Python skills, basic SQL skills, proficient in website design, bilingual, logistics, inventory, international business, procurement
- Soft Skills: excellent verbal and language communication skills, work well under pressure and team environment

EDUCATION

W.P Carey School of Business, Arizona State University
(GIE Intensive program Colombia)

B.S: Supply Chain Management

B.S: Business Data Analytics

Minor: Sustainability

International Business Certificate

Dean List

Professional Experience:

First Year Success Coach *08/2018 -Present*

- Establish goals with students by providing right resources
- Helped maximize student's experience in ASU by utilizing soft skills and open communication

TDN - Student Fundraiser *11/2018 - Present*

- Helped ASU generate funds to provide students with scholarships
- Brought awareness to programs within each school (Fulton, W.P Carey, MLFT and HIDA) Global Launch

Global Launch - Student Worker *09/2018 - 12/2018*

- Student worker who interprets for international students
- Focused on helping international students assimilate into American Culture

Fairway Electronics and Corporation - Intern *06/2018 - 08/2018*

- Designated website by using Wix.com and other online website builders - Made Translation from Mandarin to English for website with new products
- Wrote invoice and packing statements for inventory and performed basic procurement with companies in Hong Kong

One Shot - Intern *06/2017 - 08/2017*

- Helped with product photoshoots and videography production for the rebranding of new products
- Helped with shipment and logistics of products focusing mainly on inventory management
- Ran and helped build social media sites for the company (such as social media platforms like Facebook and Instagram) and increased their consumer base (PR management)

Leadership Experience:

Arizona State University - WPC 101 Facilitator *08/2019 - Current*

- Establish goals with students by providing them with the right resources
- Help maximized students experience in ASU by utilizing soft skills and open communication
- Produce lesson plans for students on topics such as professional leadership, time management, business edict, and campus involvement
- Promote the importance of leadership within the business world for young adults

Alpha Phi Gamma - Treasurer *02/2018 - 12/2018*

- Organized budget sheets and allocated money for all events
- Helped raise money for fundraising and planed for yearly Budget statements
- Prepared monthly budget sheets for Alpha Phi Gamma National Board, including projected revenue and expenses

Community Involvement:

Devi's Advocates *05/2018 - 08/2018*

- Gave tours to prospective students as part of the oldest para organization on ASU campus
- Talked about my ASU experience along with the benefits of being a W.P Carey student to prospects interested in the business school

Alpha Phi Gamma 0/4/18

- Participated in nationwide organization Feed My Starving Children, packed dried goods globally for children who battle with food insecurity
- Packed an array of women's products and clothes for homeless kids and women around the area of Phoenix to help better prepare them for employment as well as self-sufficiency

Suqi Cui

260 E. Rio Salado Pkwy | Tempe, AZ 85281 | 480-293-4288 | scui12@asu.edu

EDUCATION

Bachelor of Science in Business Data Analytics **May 2022**
W.P. Carey School of Business, Arizona State University, Tempe, AZ **GPA 4.00**
Awards: New American University Scholarship, Dean's list

PROFESSIONAL EXPERIENCE

IELTS Teacher **May 2018 – August 2018**
Aizhi Education Co., Nanjing, Jiangsu, China

- Helped 80% students reach their goal by strong communication skill and teaching ability
- Manage naughty students well by sharing similarities and setting short-term goals
- Satisfied parents by changing teachers' feedback system in order to build stronger connections with parents and make working process more efficient

Real Estate Sale **July 2017 – August 2017**
Marriott Real Estate Development Co., Yangzhou, Jiangsu, China

- Reached 40k dollars of sales products during my part-time job period by learning products' features and industry knowledge as well as customizing plans for different customers
- Networked efficiently with customers by communicating, understanding their demands and making practical plans

LEADERSHIP/ VOLUNTEER EXPERIENCE

President
Nanjing Foreign Language School Xianlin Campus Debate team

- Awarded in many national/ worldwide competitions by having club mock debate every week and organizing workshops
- Helped every club member build strong ability in debating and critical thinking
- Led the whole team together as one by maintaining good relationships with members

Active member
Volunteer Committee of Nanjing Foreign Language School Xianlin Campus

- Planned and presented a fund-raising charity show in downtown area, raising $300 for charity program
- Organized and participated most activities on campus and off campus, building good relationship and cooperating with various organizations
- Became the biggest club in the school by managing weekly meeting well and recruiting new members

SKILLS

Technical: Advanced Excel, Advanced Database, Advanced Python, Intermediate Access, Photoshop, iMovie
Language: Mandarin, Fluent in English

Lindsey Flewelling
2738 W. Oro Avenue, Mesa Arizona (AZ) 85202 linkedin.com/LindseyFlewelling
602-3802257 Lfflewelling@gmail.com

Education

Bachelor of Science in Computer Information Systems December 2021
W.P. Carrey School of Business at Arizona State University (ASU)

Associate Degree in Business with Special Requirements May 2019
Maricopa County Community Colleges
Summa Cum Laude. GPA:4.0

Cosmetology Degree June 1996
International Academy of Hair Design

Experience

Law Office of James R. Vaughan, P.C., Scottsdale, AZ May 2011 - Present
Project Manager of Process Improvement
Law Office (2015 – Present)

- Researched, procured, launched and managed internet-based process and compliance management system
- Maintained operations database.
- Managed development, implementation, documentation, and training of process improvement projects
- Evaluated firmwide operations using data analytics to identify business processes in need of improvement
- Chaired monthly meetings with each department
- Lead Systems, Development and Technology Department.

Wage Garnishment Department - Litigation Assistant
Law Office 2011-2015

- Drafted legal documents in accordance with state statutes.
- Collaborated with management, attorneys and teammates.
- Expanded department's processes resulting in increased revenues.

Co-Owner, Vice-President, Flewelling Distributions, Inc., Mesa, AZ 2006-2017

- Assisted company president in the distribution and merchandising of mission foods products to all merchants within contract territory.
- Maintained high standard of product quality and appearance of product displays, per contract and client request.
- Managed book-keeping, accounts payable, payroll and tax preparations. Board vice- president

Manager, America's Taco Shop, Phoenix, AZ December 2010-May 2011

- Supervised the restaurant team.
- Ensured high quality service, environment and food, in accordance with regulations.
- Completed the end of shift/end of day deposits and managers closing tasks.

Rescare, Inc., Arizona Youth Associates, Copper Canyon & Desert Pointe Academies, Phoenix, AZ August 1999-January 2007

Community and Family Involvement Liaison

Rescare, March 2006 - January 2007

- Board member
- Liaison for our schools' communities and families.
- Promoted strong bonds.
- Taught the high school dance / PE
- Chaired the Parent Teacher Association

Director of Finance

Rescare (December 2003 - March 2006)

- Administered financial oversight of the company's group homes and outpatient clinics as well as the charter schools, Copper Canyon & Desert Pointe Academies
- Ensured compliance with AHCCCS, Department of Economic Security, Department of Education as well as our parent company, Rescare, Inc.
- Held financial seat on the board of directors

Accounts Receivable Representative

Rescare **(**March 2003 – December 2003)

- Handled medical invoicing for both our inpatient and outpatient clients' services.
- Earned promotion to director of finance after ten months in the position.

Group Home Supervisor

Rescare (March 2000 – March 2003)

- Supervised therapeutic group home for preadolescent boys.
- Managed all areas of staffing, budgeting, medical and dietary needs and compliance.
- Served as primary point of contact with residents' schools, physicians, caseworkers, courts and treatment teams.

Skills

Technical Skills: Excel, MS Word, Powerpoint, SQL, C#, Java, Management Information Systems, Camtasia, JST Collectmax, Provana IPACS, Visio, JMP Pro, Tableau

Team Member Name: Lindsey Flewelling		
Date of Work Performed	**Description of Work Performed**	**Time Spent on Work Performed (HRS)**
1/24/2020	Reviewing Milestone 1 requirements & mapping tasks.	2
1/24/2020	Scheduling and Preparing Agenda for 1/24 team meeting	1
1/24/2020	Team Meeting -Chaired	2
1/24/2020	Preparing Agenda for 1/25 team meeting	1
1/25/2020	Team Meeting - Chaired	2.5
1/25/2020	Editing Agendas for 1/24 and 1/25 meetings	1
1/25/2020	Drafting and Posting Charter / Code of Ethics	2
1/29/2020	Updating team member Michael on project (joined team today)	2
1/29/2020	Updating Resume	0.5
1/31/2020	Head shot and Progress audit and email	0.5
2/1/2020	Proof M1 document before submitting	0.5
2/6/2020	Telephone Meeting - agreed on M2 tasks	0.75
2/6/2020	Study Business rules & work on first draft of EERD	1
2/7/2020	Revise first draft of EERD	1
2/7/2020	In-person Meeting contributed to EERD development	1
2/8/2020	Video Meeting and EERD work	3
2/11/2020	Revising EERD and drafting questions for meeting with Professor	1
2/13/2020	Meeting approving EERD and Data Dictionary	0.5
2/15/2020	Final Compilation of Milestone 2, Review, edit, submit	2
2/16/2020	Proof M2 document before submitting	0.5
3/14/2020	Team Meeting for general MS3 questions	0.6
3/15/2020	Prepare Schema and Order of Entry	1.5
3/20/2020	Team Meeting- Milestone Three script/insert data	2
3/22/2020	Meeting- Working meeting to build database together	7
3/22/2020	Proof M3 document before submitting	0.5
4/2/2020	Team Meeting - Planning and assigning	0.75
4/3/2020	Team Meeting - Basic Queries Team	1.75
4/4/2020	Develop Advanced Queries (1-3)	0.5
4/4/2020	Team Meeting- Working Meeting	3
4/5/2020	Proof M4 document before submitting	0.5
4/21/2020	M6 & M7 Planning Session	0.5
4/20/2020	M5 Made itemized Task List	1
4/22/2020	M5 Meeting - Planning M5	1
4/25/2020	M5 Meeting - Working	3
4/25/2020	Worked Assigned Tasks and organizing of deliverables	5

4/26/2020	Proof M5 document before submitting	1
4/27/2020	Worked Assigned Tasks and organizing of deliverables	2
4/28/2020	M6 & M7Meeting	1
4/28/2020	Develop PowerPoint	2
4/30/2020	Recorded VoiceThread	1
4/30/2020	Worked on M7 Assigned Tasks	2
5/1/2020	Finish work for M6	1
5/1/2020	Final Review and Approval of M6	0.5
5/1/2020	Worked on M7 Assigned Tasks	6
5/2/2020	Worked on M7 Assigned Tasks	3
5/2/2020	Final Review and Approval of M7	0.5
	Total Hours for Lindsey Flewelling	**74.35**

Team Member Name: Sharon Chin		
Date of Work Performed	**Description of Work Performed**	**Time Spent on Work Performed (HRS)**
1/25/2020	Team Meeting - agreed on tasks, developed terms for agreement	2.5
1/29/2020	logo development	0.25
1/29/2020	Updating team member Michael on project (joined team today)	2
1/31/2020	Team Membership Agreement	0.5
2/1/2020	Proof M1 document before submitting	0.5
2/6/2020	Telephone Meeting-Chaired	0.75
2/6/2020	Study Business rules & work on first draft of EERD	1
2/7/2020	In-person Meeting prepare agenda	0.25
2/8/2020	Video Meeting and EERD work	2
2/8/2020	Make agenda for video meeting	0.25
2/13/2020	Meeting- Chaired approving EERD and Data Dictionary	0.5
2/16/2020	Proof M2 document before submitting	0.5
3/14/2020	Team Meeting for general MS3 questions	0.6
3/18/2020	Created Rough draft for Metadata for SQL scripts	2.5
3/20/2020	Team Meeting- Milestone Three script/insert data	2
3/21/2020	Finalize SQL script for Milestone three	0.5
3/22/2020	Meeting- Working meeting to build database together	7
3/22/2020	Proof M3 document before submitting	0.5
4/2/2020	Team Meeting - Planning and assigning	0.75
4/3/2020	Finishing Basic Queries	1
4/3/2020	Team Meeting - Basic Queries Team	1.75
4/4/2020	Finishing Editing Queries/ Screenshots	2
4/4/2020	Team Meeting- Working Meeting	3
4/5/2020	Proof M4 document before submitting	0.5
4/21/2020	M6 & M7 Planning Session	0.5
4/21/2020	work on procedure task	2.5
4/22/2020	M5 Meeting - Planning M5	1
4/25/2020	M5 Meeting - Working	3
4/25/2020	Worked Assigned Tasks	5
4/26/2020	Proof M5 document before submitting	1
4/30/2020	Create Script for Presentation	2
5/1/2020	Add audio to voicethread Presentation	0.5
4/28/20	M6 & M7Meeting	1
4/28/20	Developed PowerPoint	1.5
4/30/20	Recorded VoiceThread	0.5
4/30/20	Worked on M7 Assigned Tasks	0.5
5/1/20	Final Review and Approval of M6	0.5

5/1/20	Worked on M7 Assigned Tasks	1
5/2/20	Final Review and Approval of M7	0.5
	Total Hours for Sharon Chin	**54.60**

Team Member Name: Haoyuan He		
Date of Work Performed	**Description of Work Performed**	**Time Spent on Work Performed (HRS)**
1/24/2020	Team Meeting - agreed on tasks, developed terms for agreement	2
1/25/2020	#2 Fill Info	0.5
1/31/2020	Update Resume	0.5
1/31/2020	Create Team Profile	0.5
2/1/2020	Proof M1 document before submitting	0.5
2/7/2020	Team Meeting - Contribute to EERD	2
2/8/2020	Create EERD	1.5
2/8/2020	Team Meeting- Contribute to EERD	2
2/11/2020	Meet Professor-EERD	0.5
2/12/2020	Meet Professor-EERD	0.5
2/13/2020	Meeting- Review and approve EERD and Data Dictionary	0.5
2/14/2020	Compile Journal Entries and develop Histogram	1
2/15/2020	Make final edits to histogram	1
2/16/2020	Proof M2 document before submitting	0.5
3/14/2020	Team Meeting for general MS3 questions	0.6
3/19/2020	Create scripts for database	2
3/20/2020	Team Meeting for MS3 Scripts and data input	2
3/21/2020	Create data for MS3 tables	0.5
3/22/2020	Meeting- Working meeting to build database together	7
3/22/2020	Proof M3 document before submitting	0.5
4/2/2020	Team Meeting for MS4 work assignments	0.75
4/3/2020	create scripts for advanced test	0.5
4/4/2020	Team Meeting- Working Meeting	3
4/5/2020	Proof M4 document before submitting	0.5
4/21/2020	M6 & M7 Planning Session	0.5
4/22/2020	M5 Meeting - Planning M5	1
4/25/2020	M5 Meeting - Working	3
4/25/2020	Worked Assigned Tasks	2
4/26/2020	Proof M5 document before submitting	1
4/28/2020	Meeting for M6, M7	1
4/28/2020	Create agenda for M6, M7	0.5
4/28/20	M6 & M7Meeting	1
4/28/20	Develop PowerPoint	1
4/30/20	Recorded VoiceThread	0.5
5/1/20	Finish work for M6	2
5/1/20	Final Review and Approval of M6	0.5

5/1/20	Worked on M7 Assigned Tasks	5.5
5/2/20	Final Review and Approval of M7	0.5
	Total Hours for Haoyuan He	**50.85**

Team Member Name: Michael Stangret		
Date of Work Performed	**Description of Work Performed**	**Time Spent on Work Performed (HRS)**
1/29/2020	Review milestone 1 requirements	0.25
1/30/2020	Create team profile for myself	0.5
1/30/2020	Create into for teammate Lindsey	1
1/30/2020	Update and upload resume	1
2/1/2020	Create and upload team profile including strengths, technology, and availability	1
2/1/2020	Create and upload headshot picture	0.25
2/1/2020	Proof M1 document before submitting	1
2/12/2020	Work on Data Dictionary definitions	1
2/13/2020	Continued work on Data Dictionary	1
2/13/2020	Team meeting - Approve EERD and Data Dictionary	0.5
3/14/2020	Team Meeting for general MS3 questions	0.6
2/14/2020	Finalize Data Dictionary	0.5
2/16/2020	Proof M2 document before submitting	0.5
3/18/2020	Created Rough draft for Metadata for SQL scripts	2.5
3/20/2020	Team Meeting- Milestone Three script/insert data	2
3/22/2020	Meeting- Working meeting to build database together	7
3/22/2020	Proof M3 document before submitting	0.5
4/2/2020	Team Meeting - Planning and assigning	0.75
4/3/2020	Create sample data and test Sql Queries for basic queries task	0.5
4/3/2020	Team Meeting - Basic Queries Team	1.75
4/4/2020	Team Meeting- Working Meeting	3
4/4/2020	Finalize team meeting Agendas	0.5
4/5/2020	Proof M4 document before submitting	0.5
4/21/2020	M6 & M7 Planning Session	0.5
4/22/2020	M5 Meeting - Planning M5	1
4/25/2020	M5 Meeting - Working	3
4/25/2020	Worked Assigned Tasks	5
4/26/2020	Create Indexes and Take Screenshots for section 3.	2
4/26/2020	Proof M5 document before submitting	1
4/28/20	M6 & M7Meeting	1
4/28/20	Develop PowerPoint	1
4/30/20	Create script for VoiceThread	1
4/30/20	Recorded VoiceThread	0.5
4/30/20	Worked on writing Executive Summary	1
5/1/20	Finish work for M6	0.5
5/1/20	Final Review and Approval of M6	0.5

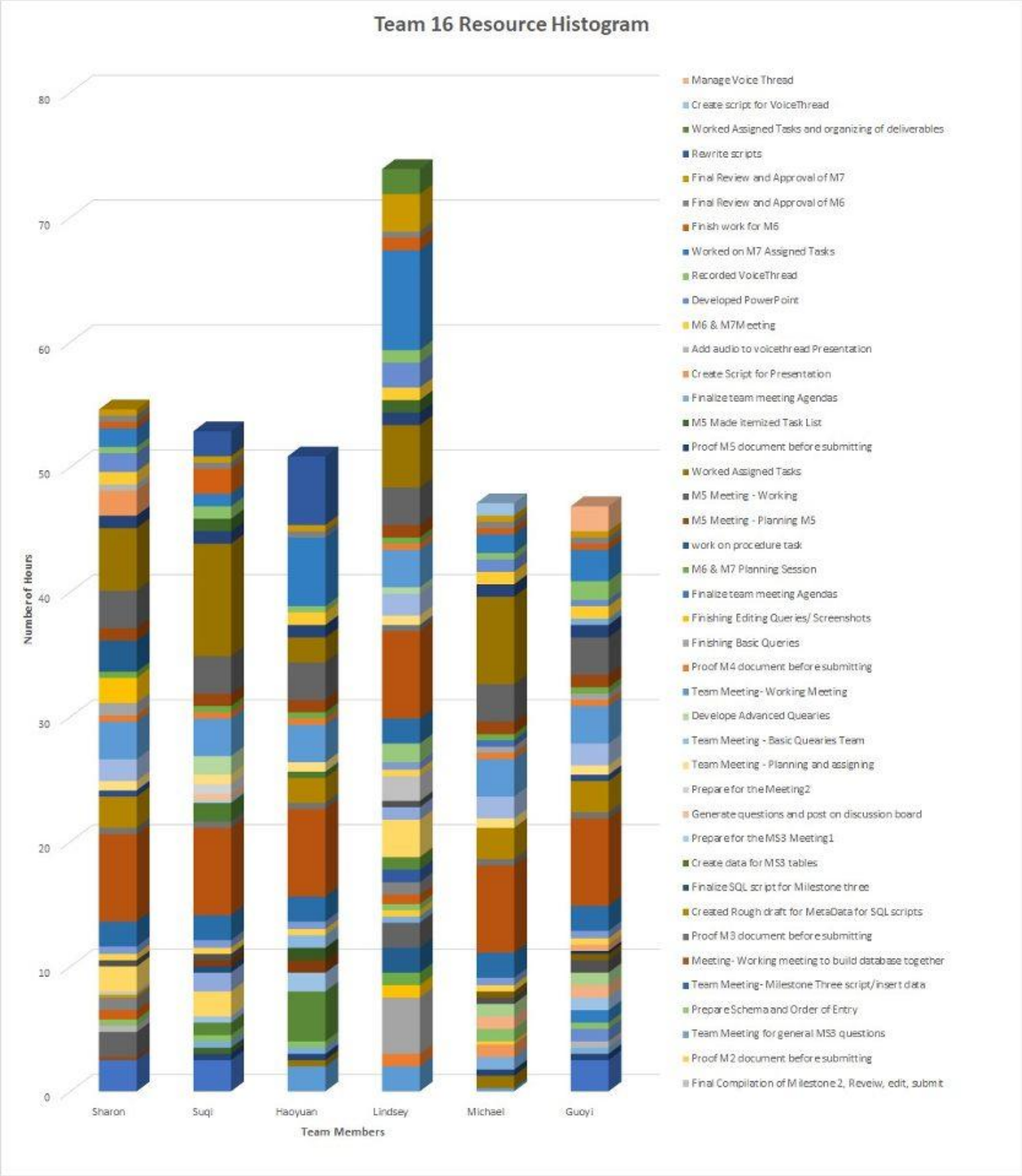
5/1/20	Finalized Executive Summary	0.5
5/2/20	Final Review and Approval of M7	0.5
	Total Hours for Michael Stangret	**47.10**

Team Member Name: Guoyi Lyu		
Date of Work Performed	**Description of Work Performed**	**Time Spent on Work Performed (HRS)**
1/25/2020	Team Meeting - assign tasks and agree on terms of contract	2.5
1/30/2020	Fill out team profile	0.5
1/31/2020	Team Membership Agreement	0.5
1/31/2020	Updating My Resume	0.5
2/1/2020	Collect all tasks to make sure deliverables are received	1
2/1/2020	Proof M1 document before submitting	0.5
2/1/2020	Send final copy out to team for approval and submit it	1
2/7/2020	Design EERD	1
2/12/2020	Data Dictionary entries	1
2/13/2020	Modify Data Dictionary entries	1
2/13/2020	Video Team Meeting - approve EERD and Data Dictionary	1
2/13/2020	Report Title Page	0.25
2/14/2020	Finalize Data Dictionary	0.5
2/15/2020	Finish my Journal Entry	0.5
2/16/2020	Proof M2 document before submitting	0.5
3/14/2020	Meeting	0.5
3/18/2020	Created Rough draft for Metadata for SQL scripts	2.5
3/20/2020	Team Meeting- Milestone Three script/insert data	2
3/22/2020	Finalize SQL script for Metadata	0.5
3/22/2020	Meeting- Working meeting to build database together	7
3/22/2020	Proof M3 document before submitting	0.5
4/2/2020	Team Meeting - Planning and assigning	0.75
4/3/2020	Search related information and create simple data for basic queries task	0.5
4/3/2020	Team Meeting - Basic Queries Team	1.75
4/4/2020	Team Meeting- Working Meeting	3
4/5/2020	Proof M4 document before submitting	0.5
4/21/2020	M6 & M7 Planning Session	0.5
4/22/2020	M5 Meeting - Planning M5	1
4/25/2020	M5 Meeting - Working	3
4/25/2020	Finalize team meeting Agendas	0.5
4/25/2020	Worked Assigned Tasks	5
4/26/2020	Proof M5 document before submitting	1
4/28/2020	M6 & M7Meeting	1
4/28/2020	Develop PowerPoint	0.5

4/30/2020	Recorded VoiceThread	1.5
4/30/2020	Worked on M7 Assigned Tasks	0.5
5/1/2020	Manage Voice Thread	2
5/1/2020	Finish work for M6	0.5
5/1/2020	Final Review and Approval of M6	0.5
5/1/2020	Worked on M7 Assigned Tasks	1
5/2/2020	Gather all SQL code	1
5/2/2020	Final Review and Approval of M7	0.5
	Total Hours for Guoyi Lyu	**51.75**

Team Member Name: Suqi Cui		
Date of Work Performed	**Description of Work Performed**	**Time Spent on Work Performed (HRS)**
1/25/2020	Team meeting- agreed on tasks, developed terms for agreement	2.5
1/30/2020	Fill out team profile	0.5
1/31/2020	Upload headshot and resume	0.5
1/31/2020	Sign the contract	0.5
2/1/2020	Proof M1 document before submitting	0.5
2/7/2020	Team meeting - contribute to creating EERD	1
2/7/2020	Design EERD	0.5
2/9/2020	Video Meeting - contributed to EERD	2
2/9/2020	Generate question and send the email to professor	0.5
2/11/2020	Re-design EERD	1
2/11/2020	Meet with professor for business rule question	0.5
2/12/2020	Meet with professor for final EERD review	0.5
2/13/2020	Meeting- Review and approve EERD and Data Dictionary	0.5
2/16/2020	Proof M2 document before submitting	0.5
3/14/2020	Prepare for the Meeting1	**0.2**
3/14/2020	Team Meeting for general MS3 questions	0.6
3/14/2020	Generate questions and post on discussion board	0.5
3/20/2020	Prepare for the Meeting2	0.3
3/20/2020	Team Meeting- Milestone Three script/insert data	2
3/20/2020	Generate questions and post on discussion board	0.3
3/21/2020	Generate data for SQL	1.5
3/22/2020	Meeting- Working meeting to build database together	7
3/22/2020	Proof M3 document before submitting	0.5
4/2/2020	Team Meeting - Planning and assigning	0.75
4/4/2020	Team Meeting- Working Meeting	3
4/4/2020	Develop Advanced Queries	1.5
4/5/2020	Proof M4 document before submitting	0.5
4/20/2020	M5 Made itemized Task List	1
4/22/2020	M5 Meeting - Planning M5	1
4/25/2020	M5 Meeting - Working	3
4/24/2020	Work Assigned Tasks	5
4/25/2020	Worked on Tasks	4
4/26/2020	Proof M5 document before submitting	1
4/30/2020	Recorded VoiceThread	1
5/1/2020	Finish work for M6	2
5/1/2020	Final Review and Approval of M6	0.5

5/1/2020	Worked on M7 Assigned Tasks	1
5/2/2020	Final Review and Approval of M7	0.5
	Total Hours for Suqi Cui	**52.15**


Team 16 Resource Histogram
Number of Hours
0
10
20
30
40
50
60
70
80
Sharon
Suqi
Haoyuan
Lindsey
Michael
Guoyi
Team Members
Manage Voice Thread
Create script for VoiceThread
Worked Assigned Tasks and organizing of deliverables
Rewrite scripts
Final Review and Approval of M7
Final Review and Approval of M6
Finish work for M6
Worked on M7 Assigned Tasks
Recorded VoiceThread
Developed PowerPoint
M6 & M7Meeting
Add audio to voicethread Presentation
Create Script for Presentation
Finalize team meeting Agendas
M5 Made itemized Task List
Proof M5 document before submitting
Worked Assigned Tasks
M5 Meeting - Working
M5 Meeting - Planning M5
work on procedure task
M6 & M7 Planning Session
Finalize team meeting Agendas
Finishing Editing Queries/ Screenshots
Finishing Basic Queries
Proof M4 document before submitting
Team Meeting- Working Meeting
Develope Advanced Quearies
Team Meeting - Basic Quearies Team
Team Meeting - Planning and assigning
Prepare for the Meeting2
Generate questions and post on discussion board
Prepare for the MS3 Meeting1
Create data for MS3 tables
Finalize SQL script for Milestone three
Created Rough draft for MetaData for SQL scripts
Proof M3 document before submitting
Meeting- Working meeting to build database together
Team Meeting- Milestone Three script/insert data
Prepare Schema and Order of Entry
Team Meeting for general MS3 questions
Proof M2 document before submitting
Final Compilation of Milestone 2, Reveiw, edit, submit

Appendix C - Meeting Agendas

Meeting Agenda

Date & Time: Friday 1/24/2020, at 3:00 PM

Team Meeting for: ProSolvers

Prepared by: (LF)

Client's Name: not know at this time

Team members in attendance:

1. **(Chair) - Lindsey**
2. **Haoyuan**

Team members absent:

1. **Michael**
2. **Sharon ***
3. **Suqi ***
4. **Guoyi ***

***Not scheduled to attend this meeting**

Meeting Objective: Initiate our project goals, tasks and expectations for this and future milestones.

Agenda:

- **Discuss expectations for extra credit (Saturday Submission)**
- **Decide on team name.**
- **Review strengths & conation types**
- **Assign Tasks**
  - **Task # 3 Lead – Lindsey**
  - **Task # 5 Lead – Haoyuan**
  - **Task # 6 Lead – Haoyuan**
- **Obtain availability for future meetings**
- **Develop Charter / Code of Conduct**
- **Deliverables and due dates**
- **Reviewed items for discussion in 1/25 meeting.**

Action Item	Assigned To	Due Date

Deliverables will be detailed in 1/25 Meeting	**Lindsey**	**1/25/20**

Time meeting ended: 5:00 PM

Date and time of next meeting: Sat. 1/25/20, 10:30 AM *

*** (Haoyuan not scheduled to attend)**

Meeting Agenda

Date & Time: Saturday 1/25/2020, at 10:30 AM

Team Meeting for: ProSolvers

Prepared by: (LF)

Client's Name: _____

Team members in attendance:

1. **(Chair) - Lindsey**
2. **Sharon**
3. **Suqi (1/25)**
4. **Guoyi**

Team members absent:

1. **Michael**
2. **Haoyuan (Not scheduled)**

***Not scheduled to attend this meeting**

Meeting Objective: Initiate our project goals, tasks and expectations for this and future milestones.

Agenda:

- **Reviewed items covered in 1/24 meeting**
- **Discuss expectations for extra credit (Saturday Submission)**
- **Decide on team name.**
- **Review strengths & conation types**
- **Assign Tasks**
    - **Task # 1 Lead – Sharon**
    - **Task # 2 Lead – Suqi**
    - **Task # 3 Lead – Lindsey**
    - **Task # 4 Lead – Suqi**
    - **Task # 5 Lead – Haoyuan**
    - **Task # 6 Lead – Haoyuan**
    - **Task # 7 Lead – Lindsey**
    - **Task # 8 Lead – Guoyi**
- **Obtain availability for future meetings**

- **Develop Charter / Code of Conduct**
- **Deliverables and due dates**

Action Item	Assigned to	Due Date
Fill out "About Our Team Members"	All	Sat. 1/25, 9:00 PM
Submit Resume & Headshot	All	Tues. 1/28, 9:00 PM
Submit Profile Paragraphs to Suqi	All	Wed. 1/29, 9:00 PM
Draft Contract / Code of Conduct	Lindsey	Wed. 1/29, 9:00 PM
Submit Journal Entries to Haoyuan	All	Thurs. 1/30, 9:00 PM
Design Logo & Create Title Page, submit to Guoyi (1)	Sharon	Fri. 1/31, 9:00 PM
Combine & Formatted Profiles, submit to Guoyi (2)	Suqi	Fri. 1/31, 9:00 PM
Sign Contract / Code of Conduct (3)	All	Fri. 1/31, 9:00 PM
Draft and submit Team Profile to Guoyi (4)	Suqi	Fri. 1/31, 9:00 PM
Format Journal Entries, submit to Guoyi (5)	Haoyuan	Fri. 1/31, 9:00 PM
Draft Histogram, submit to Guoyi (5)	Haoyuan	Fri. 1/31, 9:00 PM
Coordinate & Document Meetings. Submit to Guoyi (7)	Lindsey	Fri. 1/31, 9:00 PM
Submit time adjustment for Journal Entries	All	Fri. 1/31, 9:00 PM
Prepare, edit and format Milestone #1. Submit to team for approval. (Task #8)	Guoyi	Sat. 2/1, 5:00 PM
Review /suggest edits / approve	All	Sat. 2/1, 6:00 PM
Make Final Edits & Submit Milestone #1	Guoyi	Sat. 2/1, 11:00 PM

Time meeting ended: 12:30 PM

Date and time of next meeting: Fri. 1/31/20, 3:00 PM – 5:00PM (as needed)

Date & Time: Saturday 3/14/2020, at 6:00 PM

Team Meeting for: ProSolvers

Prepared by: (S Cui)

Team members in attendance:

1. (Chair) – Skye **2. Sharon**

3. Lindsey **4. Guoyi**

5. Haoyuan

Team members absent:

1. Michael

Meeting Objective:

Assigning tasks and expectations for Milestone 3, Setting deadlines for each task

Agenda:

- **-Review items covered in 3/5 meeting**
- **-Go through the requirement for Milestone 3**
- **-Assign tasks to each member**
- **-Generate questions during the meeting and send them to professor**

Action Item

Action Item	Assigned to	Due Date
Develop schema for database	Lindsey	Sun. 3/15, 11:59PM
Create Metadata	Sharon, Haoyuan, Guoyi, Micheal	Wed. 3/18, 11:59PM
Generate questions and post on discussion board	Skye	Sat. 3/14, 9:00PM

Time Meeting Ended: 6:30pm

Data and Time for Next Meeting: Fri. 3/20/20, 8:00PM

Date & Time: Friday 3/20/2020, at 8:00 PM

Team Meeting for: ProSolvers

Prepared by: (S Cui)

Team members in attendance:

1. (Chair) – Skye

2. Sharon

3. Lindsey

4. Guoyi

5. Haoyuan

6. Michael

Team members absent:

None

Meeting Objective:

Reviewing tasks assigned during the last meeting and assigning new tasks regarding to sample data

Agenda:

- **-Review tasks in 3/14 meeting**
- **-Revise and Improve the metadata**
- **-Assign tasks regarding to sample data to each member**
- **-Generate questions during the meeting and send them to professor**

Action Item

Action Item	Assigned to	Due Date
Create Sample Data for Property	Sharon, Guoyi	Sat. 3/21, 11:59PM
Create Sample Data for Employee	Haoyuan	Sat. 3/21, 11:59PM
Create Sample Data for Client, Corporation, Person	Skye, Michael	Sat. 3/21, 11:59PM
Create Sample Data for VisitAddFee	Michael	Sat. 3/21, 11:59PM

Create Sample Data for Service	**Guoyi**	**Sat. 3/21, 11:59PM**
Final Revision of the schema	**Lindsey**	**Sun. 3/22, 9:00PM**
Generate questions and post on discussion board	**Skye**	**Fri. 3/20, 11:00PM**
Improve metadata	**Sharon, Haoyuan, Skye, Lindsey, Michael**	**Fri. 3/20, 10:00PM**

Time Meeting Ended: 10:00pm

Data and Time for Next Meeting: Sun. 3/22/20, 1:30PM

Date & Time: Sunday 3/22/2020, at 1:30 PM

Team Meeting for: ProSolvers

Prepared by: (S Cui)

Team members in attendance:

1. (Chair) – Skye

2. Sharon

3. Lindsey

4. Guoyi

5. Haoyuan

6. Michael

Team members absent:

None

Meeting Objective:

Reviewing tasks assigned during the last meeting, working on the database through Zoom together, and finalize the deliverables for submission

Agenda:

- **-Review tasks in 3/14 meeting**
- **-Revise and Improve the metadata and sample data**
- **-Finalize the schema**
- **-Finalize meeting agenda, journal entry, and histogram**
- **-Submit all the deliverables**

Working Needing(All actions all due during this meeting or by the end of the meeting)

Action Item	Assigned to
Improve Sample Data for Property	Sharon
Improve Sample Data for Employee	Haoyuan
Improve Sample Data for Client, Corporation, Person	Skye, Michael
Improve Sample Data for Sample Data for VisitAddFee	Haoyuan, Michael
Improve Sample Data for Service	Sharon, Lindsey, Michael, Haoyuan, Skye

Create Data for Visit	**Sharon, Lindsey, Michael, Haoyuan**
Create Data for EmployeeServiceVisit	**Sharon, Lindsey, Michael, Haoyuan**
Database Finalization and Testing	**Sharon, Haoyuan, Lindsey, Michael, Skye**
Draft Histogram	**Haoyuan**
Generate and format Journal Entries	**Lindsey**
Finish and Submit Meeting Agenda to Lindsey	**Skye**
Final revision of schema	**Lindsey**
Generate and format all the deliverables and submit the Milestone	**Lindsey**

Time Meeting Ended: 8:30pm

Data and Time for Next Meeting: To be decided

Date & Time: 4/2/20, 8:30 pm

Team Meeting for: ProSolvers

Prepared by: (MS)

Client's Name: Eye on U

Team members in attendance:

1. **(Chair) - Michael**
2. **Sharon**
3. **Lindsey**
4. **Guoyi**
5. **Haoyuan**
6. **Skye**

Meeting Objective: Review objectives for Milestone 4. Assign tasks and set deadlines for tasks.

Agenda:

- Review requirements for milestone 4
- Assign tasks for each team member
- Create deadlines for tasks
- Assign date for next meeting

Action Item	Assigned To	Due Date
Create code for Views (7-9)	Hank	4/4/20
Create code for Fully nested (4-6)	Skye	4/4/20
Create code for Basic Queries (1-10)	Michael, Sharon, Guoyi	4/3/20
Group by (1-3)	Lindsey	4/4/20

Time meeting ended: 9:15

Date and time of next meeting: 4/4/2020 , 1pm

Date & Time: 4/3/2020, 8:30 pm

Team Meeting for: ProSolvers

Prepared by: (MS)

Client's Name: Eye on U

Team members in attendance:

1. **(Chair) - Michael**
2. **Sharon**
3. **Guoyi**

Meeting Objective: Work on Basic Queries 1-10

Agenda:

- Work as a team to generate code for basic queries

Action Item	Assigned To	Due Date
Create code for basic queries 1-6	All Members	4/3/2020
Create code to test database 7-10	All Members	4/4/2020

Time meeting ended: 10:15 pm

Date and time of next meeting: 4/4/20 1pm

Date & Time: 4/4/2020, 1pm

Team Meeting for: ProSolvers

Prepared by: MS

Client's Name: Eye on U

Team members in attendance:

1. **(Chair) - Michael**
2. **Sharon**
3. **Lindsey**
4. **Guoyi**
5. **Haoyuan**
6. **Skye**

Meeting Objective: Review tasks completed for milestone 4.

Agenda:

- Go over basic Queries
- Revise and improve metadata
- Go over Advanced Queries
- Revise EERD

Action Item	Assigned To	Due Date
Revise EERD	Lindsey	4/4/2020
Finalize basic Queries	Michael, Sharon, Guoyi	4/4/2020
Finalize Advanced Queries	Lindsey, Haoyuan, Skye	4/4/2020
Complete Journal Entries	All Members	4/5/2020
Draft Histogram	Haoyuan	4/4/2020
Finish and Submit Meeting Agenda to Lindsey	Michael	4/4/2020
Generate and format all the deliverables, update EERD	Lindsey	4/5/2020
Review Project for Submission	All Members	4/5/2020

Time meeting ended: 4 pm

Date and time of next meeting: To be determined

Date & Time: 4/22/20, 8:00 pm

Team Meeting for: ProSolvers

Prepared by: (MS)

Client's Name: Eye on U

Team members in attendance:

1. **(Chair) - Guoyi**
2. **Sharon**
3. **Lindsey**
4. **Michael**
5. **Haoyuan**
6. **Skye**

Meeting Objective: Review objectives for Milestone 5. Assign tasks and set deadlines for tasks.

Agenda:

- Review requirements for milestone 5
- Assign tasks for each team member
- Create deadlines for tasks
- Assign date for next meeting

Action Item	Assigned To	Due Date
Transaction	Haoyuan,Linsey	4/25/20
Trigger / Stored Procedures	Skye,Sharon	4/25/20
Indexes	Michael	4/25/20
Analytics Dashboard	ALL	4/25/20

Time meeting ended: 9:00

Date and time of next meeting: 4/25/20 2pm

Date & Time: 4/25/2020, 2pm

Team Meeting for: ProSolvers

Prepared by: GL

Client's Name: Eye on U

Team members in attendance:

1. **(Chair) - Guoyi** 4. **Michael**
2. **Sharon** 5. **Haoyuan**
3. **Lindsey** 6. **Skye**

Meeting Objective: Review tasks completed for milestone 5.

Agenda:

- Go over Milestone 5 Tasks
- Solve our doubts about Milestone 5
- Revise metadata
- Update metadata

Action Item	Assigned To	Due Date
Finalize Transactions	Lindsey,Haoyuan	4/25/2020
Finalize Trigger/Stored Procedures	Sharon,Skye	4/25/2020
Finalize Indexes	Michael	4/25/2020
Finalize Analytics Dashboard	All Members	4/25/2020
Complete Journal Entries	All Members	4/25/2020
Draft Histogram	Haoyuan	4/25/2020
Finish and Submit Meeting Agenda to Lindsey	Guoyi	4/25/2020
Generate and format all the deliverables	Lindsey	4/25/2020
Review Project for Submission	All Members	4/25/2020

Time meeting ended: 6 pm

Date and time of next meeting: To be determined

Date & Time: 4/28/2020, 8 pm

Team Meeting for: ProSolvers

Prepared by: (HH)

Client's Name: Eye on U

Team members in attendance:

1. **(Chair) -Haoyuan**
2. **Guoyi**
3. **Michael**
4. **Lindsey**
5. **Sharon**

Team members absent:

1. **Suqi Cui**

Meeting Objective: Review requirement for Milestone 6, assign tasks and deadlines.

Agenda:

- Discuss requirements for Milestone 6
- Assign tasks for each member
- Set deadlines for each task

Action Item	Assigned To	Due Date
Add images to slides	Lindsey	4/28/2020
Finish Slides	Sharon	4/29/2020
Write Presentation Script	Michael	4/29/2019
Manage Voice Thread through to end	Guoyi	4/30/2020
All recordings	Guoyi	4/30/2020
Submit	Guoyi	5/1/2020

Time meeting ended: 9 pm

Date and time of next meeting: To be determined

Date & Time: 4/28/2020, 8 pm

Team Meeting for: ProSolvers

Prepared by: (HH)

Client's Name: Eye on U

Team members in attendance:

1. **(Chair) - Haoyuan**
2. **Guoyi**
3. **Michael**
4. **Lindsey**
5. **Sharon**

Team members absent:

1. **Suqi Cui**

Meeting Objective: Review requirement for Milestone 7, assign tasks and deadlines.

Agenda:

- Discuss requirements for Milestone 7
- Assign tasks for each member
- Set deadlines for each task

Action Item	Assigned To	Due Date
Executive summary	Guoyi	4/30/2020
Client Introduction	Sharon	4/30/2020
Current Situation	Sharon	4/30/2020
Audit all feedback from M1-5, make corrections	Haoyuan	5/1/2020
Audit to make sure all clients requirements are met, fulfill any missing	Haoyuan	5/1/2020
Gather all SQL coding and put into 1 file	Guoyi	5/1/2020
Follow up on JEs and make final histogram	Haoyuan	5/1/2020

Challenges of database	Suqi	4/30/2020
Lessons Learned	Suqi	4/30/2020
Table of Contents	Lindsey	5/1/2020
Put packet together	Lindsey	5/1/2020
Submit	Lindsey	5/1/2020

Time meeting ended: 9 pm

Date and time of next meeting: To be determined

Appendix D – Presentation

Eye On U

Team 16
Guoyi Lyu, Haoyuan He, Lindsey Flewelling, Michael Stangret, Sharon Chin, Suqi Cui

Outline

- Team Introduction
- Client Introduction
- Entity Relationship Diagrams & Schema
- Sample Data Tables
- Advanced Queries
- Triggers & Procedures
- Visual Analytics
- Development Challenges
- Lessons Learned

The ProSolvers Team

Haoyuan (Hank) He

- Junior at ASU W.P. Carey School of Business.
- Born in China
- SQL
- Speaks Chinese and English
- Follow-through conation.
- Enjoys travel, adventure, he even enjoys skydiving.

The ProSolvers Team

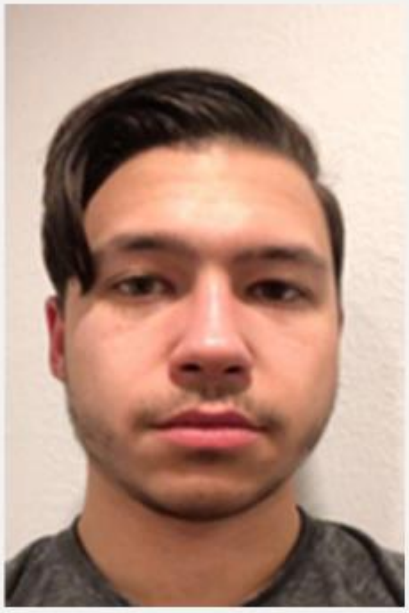
Lindsey Flewelling

- Junior at ASU W.P. Carey School of Business.
- Born in California, USA
- SQL, Java, C++, Project Management
- Follow-through conation.
- Enjoys camping, dancing and playing softball.

The ProSolvers Team

Suqi (Skye) Cui

- Sophomore at ASU W.P. Carey School of Business.
- Born in Nanjing, China
- SQL
- Speaks Chinese and English,
- Quick-Starter conation.
- Enjoys animals, especially her pet "Doo doo ball".



The ProSolvers Team

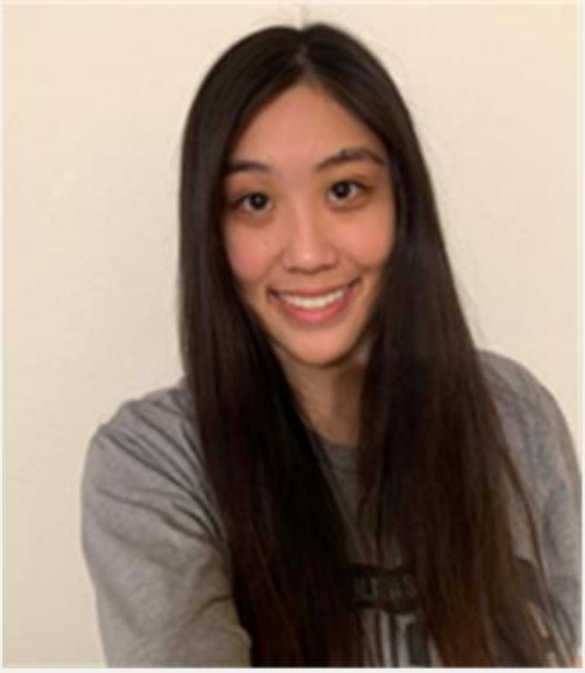
Michael Stangret

- Junior at ASU W.P. Carey School of Business.
- Born in Illinois, USA
- SQL, Java, Python
- Implementer & Facilitator conation.
- Enjoys being outdoors, skiing, and playing soccer

The ProSolvers Team

Sharon Chin

- Senior at ASU W.P. Carey School of Business.
- Born in Bay Area, California
- Python
- Speaks Chinese and English
- Fact Finder conation.
- Enjoys music and the arts



The ProSolvers Team

Guoyi Lyu

- Sophomore at ASU W.P. Carey School of Business.
- Born in Liaocheng, China
- SQL
- Speaks Chinese and English,
- Fact Finder conation.
- Enjoys swimming, traveling and time with friends

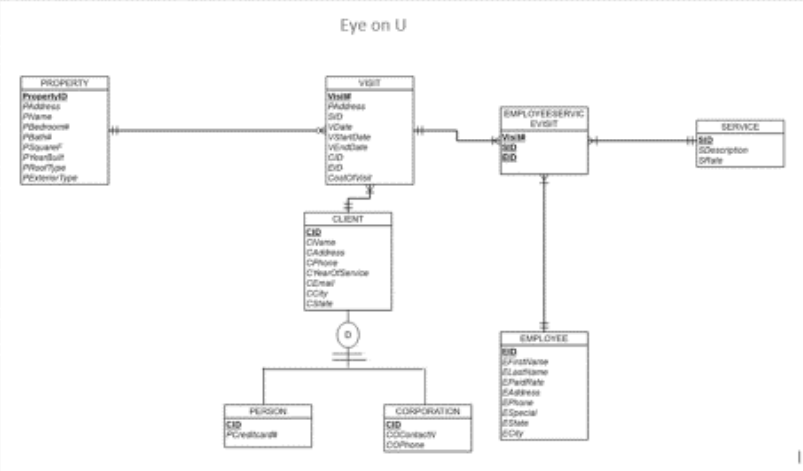
Eye On U: Summary

- Home watch company located in Palm Beach, Florida
- Responsible to watch over any investment properties
- Manage and perform interior and exterior inspections due to weather damages
- Property Management and maintenance service

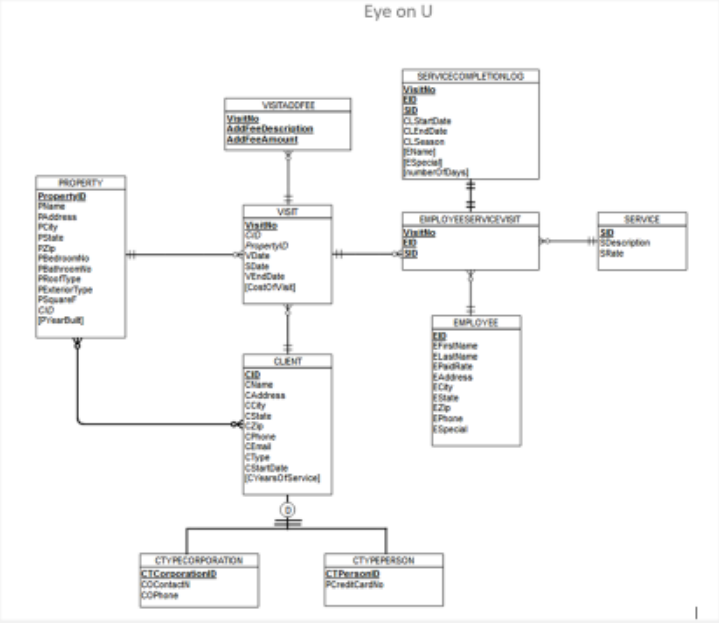
Requirements

- Property Information including additional information (Bedroom No., Exterior Type, Interior Type, Square Footage, and etc.)
- What type of services are offered and other additional services/fees
- The clients and additional information about the clients that are being services
- Employee and additional information on the employees that are performing the Service
- Recorded Visits each Employee makes on each respective Property

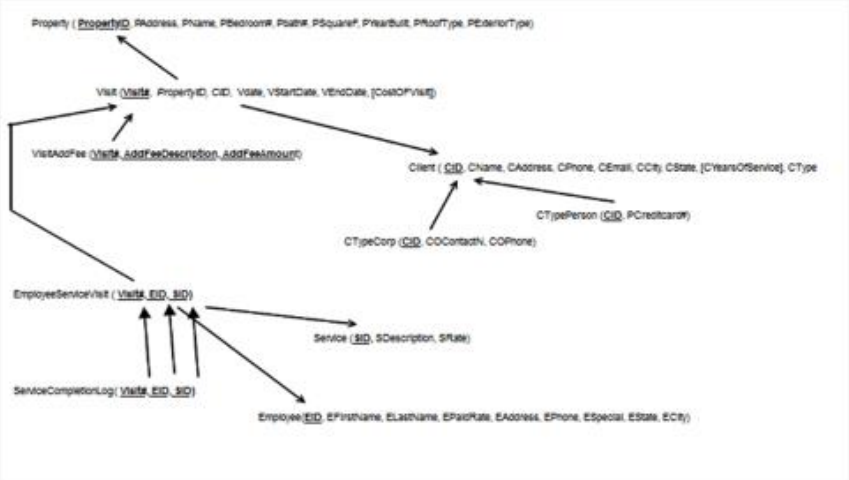
Initial E/R Diagram



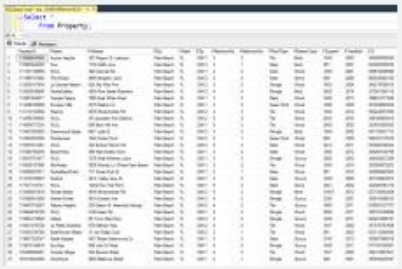
Revised E/R Diagram

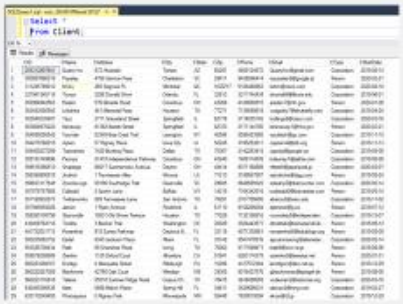


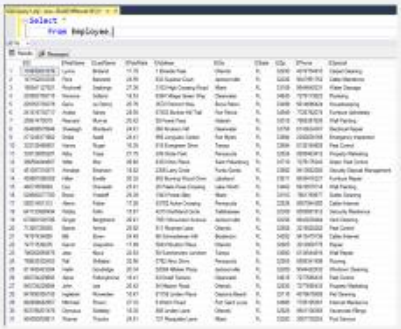
Schema



Sample Data Tables







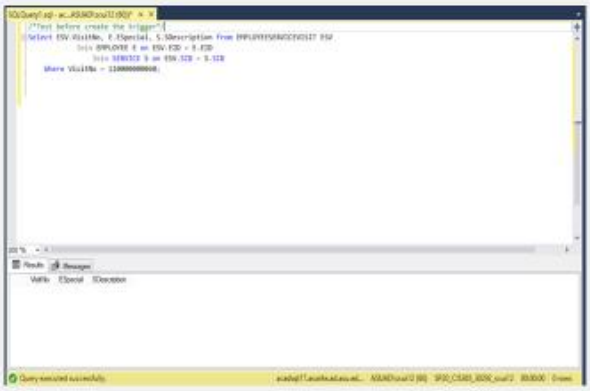
Advanced Queries

```sql
/* Employees residing in the same states as a client */
SELECT DISTINCT EFirstName "Employee First Name", ELastName "Employee Last Name", EState "Employee State",
CState "Client State"
   FROM EMPLOYEE
     JOIN CLIENT
     ON EState=CState
   GROUP BY EFirstName, ELastName, EState, CState
      HAVING EState = CState
ORDER BY CState;
```

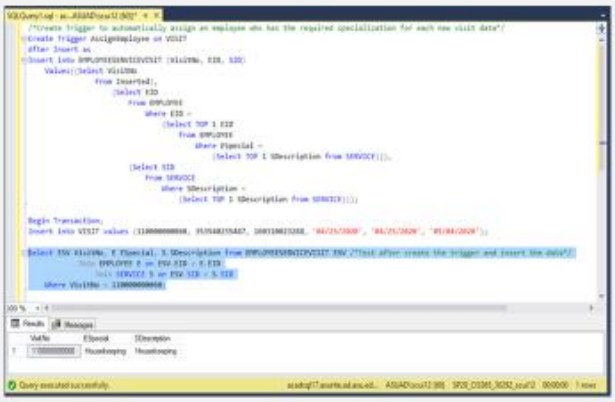
Advanced Queries

```sql
/*Total charge for each visit where there are multiple services performed.*/
Select DISTINCT ESV.VisitNo, sum(AddFeeAmount)+sum(SRate) AS TotalCharge
    From VisitAddFee VAF
            Join EmployeeServiceVisit ESV on VAF.VisitNo = ESV. VisitNo
            Join Service S on ESV.SID = S.SID
        Where ESV.VisitNo in
            (Select ESV.VisitNo
                From EmployeeServiceVisit ESV
                    left join Service S on S.SID = ESV.SID
                        Group by VisitNo
                            Having Count(ESV.SID)>1)
Group by ESV.VisitNo;
```

Triggers

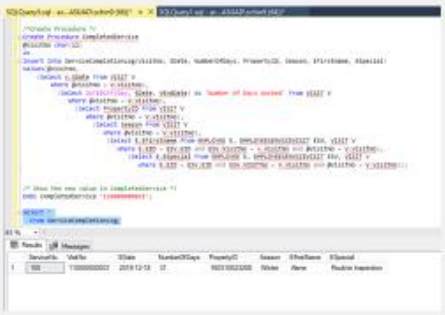


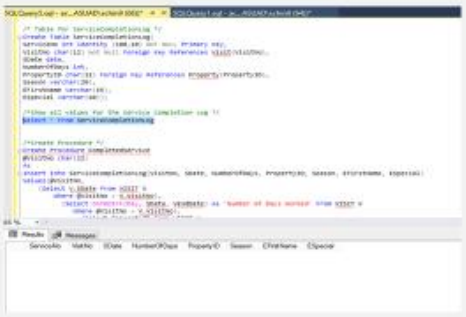
Before



After

Procedures





25	110000000025	670903137727	118407919297	2015-12-17	2015-12-17	2016-02-15	Winter
26	110000000026	358260108799	115369762538	2015-06-24	2015-06-24	2015-08-23	Summer
27	110000000027	337941345118	112520538605	2016-05-22	2016-05-22	2016-09-22	Spring
28	110000000028	353453080593	114654577224	2018-08-21	2018-08-21	2018-11-21	Fall
29	110000000029	355516366510	118398541900	2017-09-21	2017-09-21	2017-12-21	Fall
30	110000000030	353540235487	160310023288	2018-11-21	2018-11-21	2019-01-21	Fall

Query executed successfully.

Before

Procedure update the visit table upon completion of service

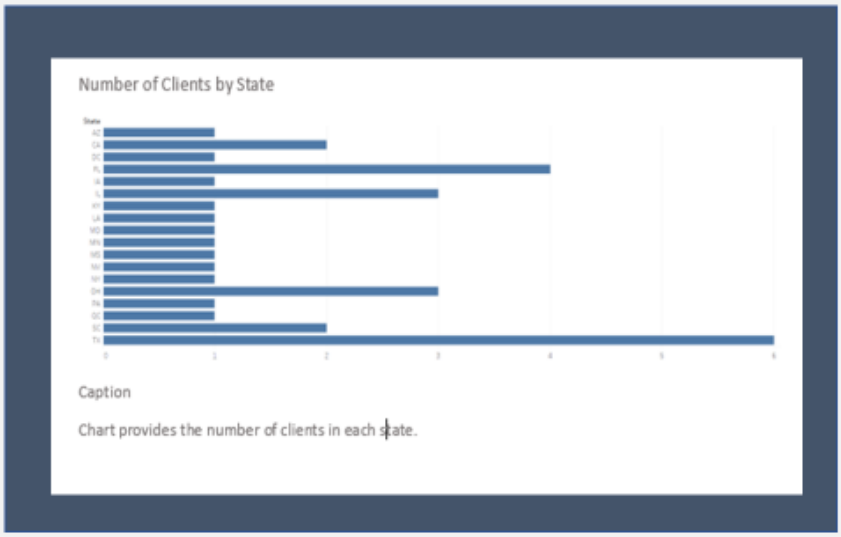
25	110000000025	670903137727	118407919297	2015-12-17	2015-12-17	2016-02-15	Winter
26	110000000026	358260108799	115369762538	2015-06-24	2015-06-24	2015-08-23	Summer
27	110000000027	337941345118	112520538605	2016-05-22	2016-05-22	2016-09-22	Spring
28	110000000028	353453080593	114654577224	2018-08-21	2018-08-21	2018-11-21	Fall
29	110000000029	355516366510	118398541900	2017-09-21	2017-09-21	2017-12-21	Fall
30	110000000030	353540235487	160310023288	2018-11-21	2018-11-21	2019-01-21	Fall
31	110000000031	353540235487	160310023288	2018-12-18	2018-12-18	2019-01-18	Winter

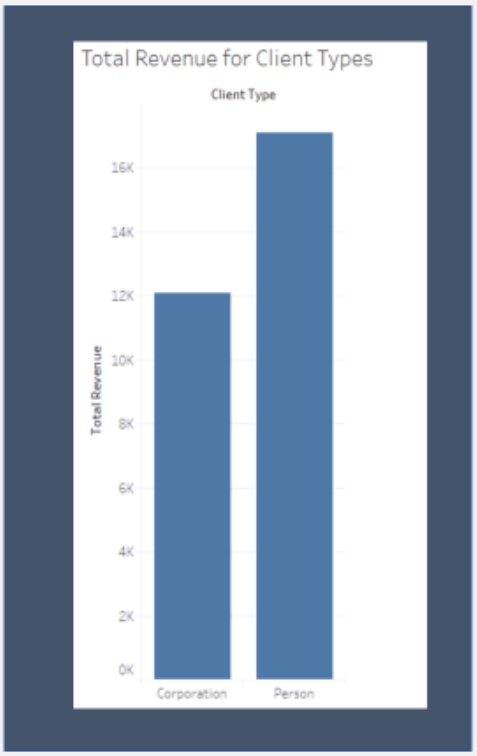
Query executed successfully.

After

Analytics Visuals

Your Clients

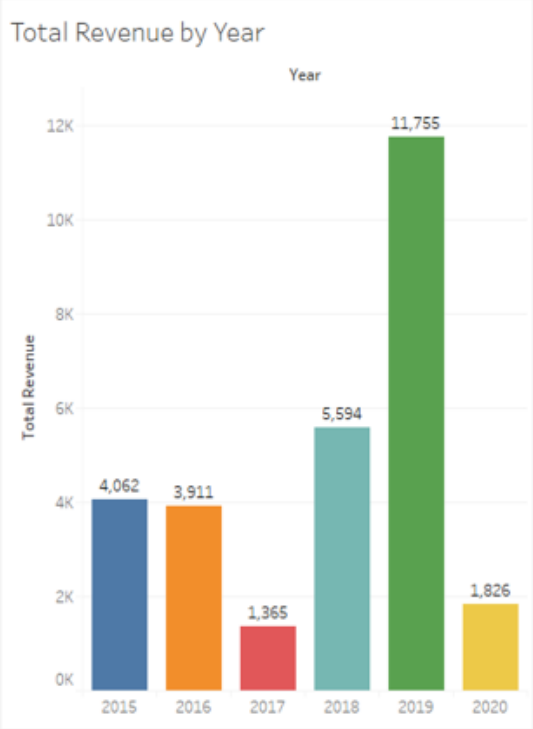




Analytics Visuals

Your Revenue

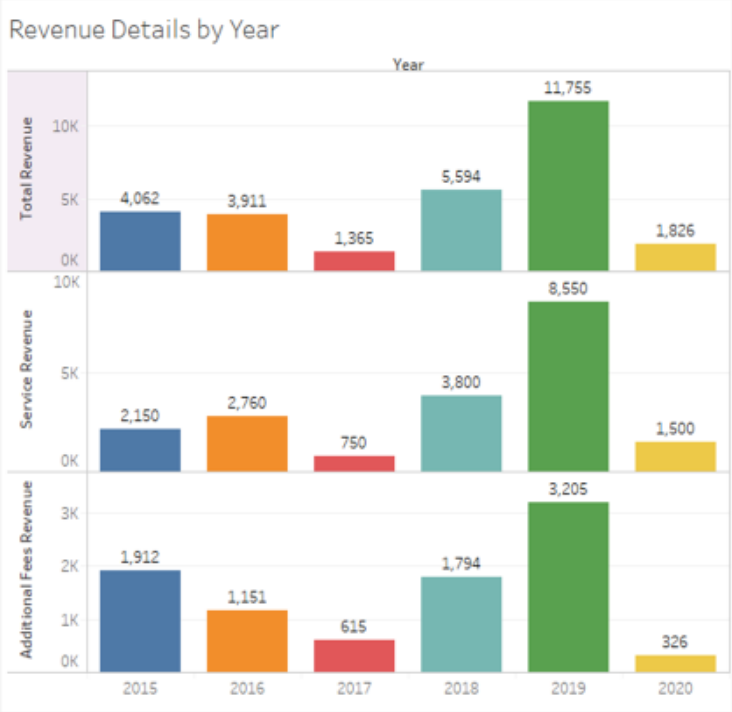
- 2019 had significant grown in revenue
- 2020 is off to a strong start



Analytics Visuals

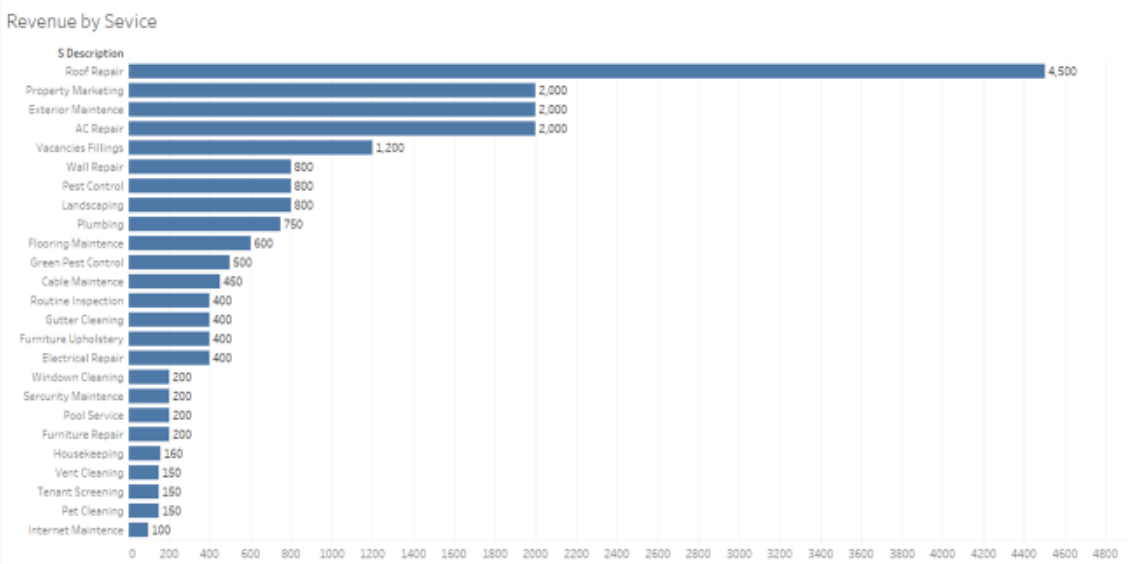
Your revenue

- Services
- Additional Fees



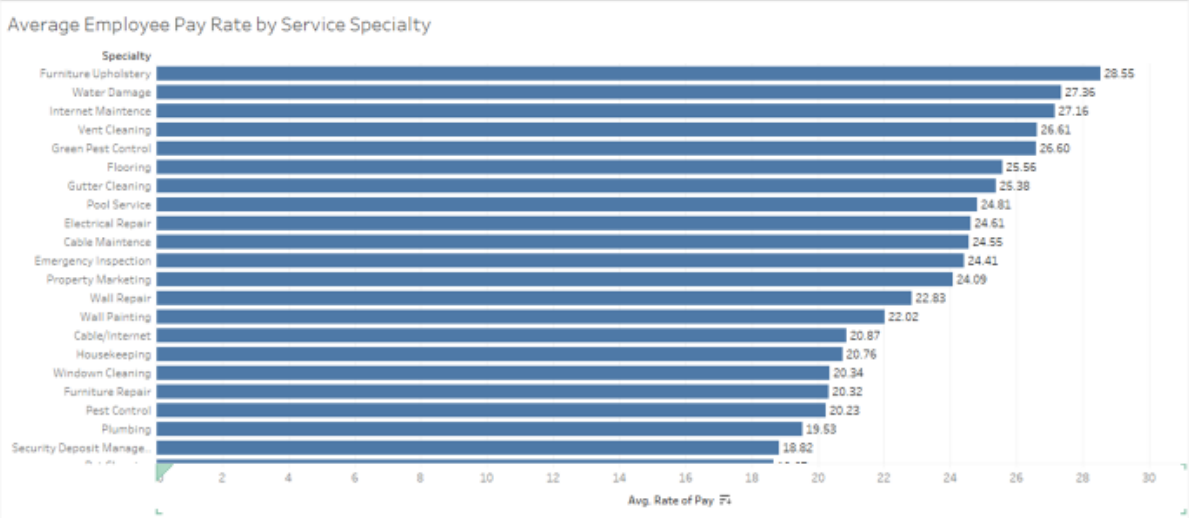
Analytics Visuals

Your Revenue



Analytics Visuals

Your Employees



Challenges and How they were Resolved ?

- Struggle to conceptualize translating Business Rule to ER Diagram
- Better utilizing each group member's strength
- Making multiple updates to the database after the first development stage
- Making sure to properly define the linkage between each table
- Efficiency

Lessons Learned

- A Clear Goal with developing the database
- Discussed how to better utilize each group member's strengths
- Be comfortable with revisions and adapt to unforeseen situations
- Learn from coding errors don't be afraid to fail
- Better communication with group members
- Trust in the team's knowledge of SQL

Thank you Eye on U for choosing ProSolvers as your database development team! We are here to help with all future database needs!