

Team 5 - Atlas Co.



ATLAS CO.

"Ready to shoulder
the burden for our
clients."

Client: Franklin's Management Services

Isis Sanchez

Varun Shourie

Nayan Tez

Mat Brewer

Janae Lewis

TABLE OF CONTENTS

Executive Summary.....	3
Team Member Intros.....	4
Team Charter.....	6
Membership Agreement.....	7
Team Profile.....	8
Client Introduction/Requirements.....	9
Initial ERD.....	10
Revised ERD.....	11
Final ERD.....	12
Data Dictionary.....	13
Schema.....	22
Tables.....	23
Client Required Deliverables.....	39
Entity Integrity Tests.....	53
Referential Integrity Tests.....	61
Basic Queries.....	68
Advanced Queries.....	81
Transaction.....	86
Trigger.....	90
Procedure.....	93
Index/Query Plan.....	94
Individual Visualizations/Views.....	103
Visualization Dashboard.....	111
Challenges.....	113
Lesson Learned.....	114
Appendices.....	115
<i>Appendix A: SQL Scripts.....</i>	115
<i>Appendix B: Team Resumes, Journal Entries, Team Histogram.....</i>	173
<i>Appendix C: Meeting Agendas.....</i>	189
<i>Appendix D: Presentation Screenshots.....</i>	197

Executive Summary

Over the process of this project, we developed a series of deliverables to formalize our progression in database design. Beginning with a background of our team members, the Code of Ethics and Team Member Agreement reflects the standards which every project member was held accountable to throughout the project. Members' combined skills, available technologies, conation types, and the translation of these characteristics into suggested roles are all provided under the Team Profile.

Starting with the initial draft of the EERD, we implemented about fourteen tables still possessing multivalued attributes and derived attributes. In successive drafts, we resolved these aspects. Upon our client's final feedback to link the Users table to the Employees table, we finalized our EERD and Relational Model. This enabled us to create the fifteen client desired results which Franklin's Management Services requested from us.

Throughout this process, we implemented our data tables one by one; next, we performed a series of entity integrity tests through performing a SELECT DISTINCT query or INSERT statement. Then we performed referential integrity tests by joining tables to check for anomalies. We also performed advanced query tests using group by queries, nested queries, and views. We then created a procedure which updates a log when a work order is delayed and a trigger which automatically assigns a technician based on the task type inserted by the user. We also performed some sample transactions for scenarios such as retiring users' credentials for the database and adding a new supplier. Finally, we created some views of interest to Franklin's Management Services and compiled a sample dashboard which our client may consider adopting at their discretion. - VS

Team Member Intros

Isis Sanchez | Conation Type: Follow Through



Isis is a junior year student here at ASU majoring in business human resource management and data analytics. She is an ambitious and reliable member of our team with experience as a retail sales associate at Marshalls in the past year and a half and has overcome challenging tasks. She is an active member of the Department of Information Systems Club (DISC) ASU and has knowledge in Python, SQL and SPSS, along with the Microsoft Suite. Isis is born and raised in Arizona and has a cat named Nacho. -VNT

Varun Shourie | Conation Type: Implementor/Facilitator



Varun Shourie is currently a Junior studying CIS at ASU. He has experience working in the legal industry as a clerk, where he drafted legal documents and worked with clients. On campus, Varun gains technical knowledge from organizations such as the Department of Information Systems Club (DISC) and the Software Developers' Association (SODA). He prides himself on being a quick learner, learning skills such as SQL, Java, and C# programming. Outside of school and work, Varun is an ardent runner and video gamer. He loves to squeeze in a few miles every day on the asphalt and play NBA2K. -JL

Nayan Tez | Conation Type: Fact Finder



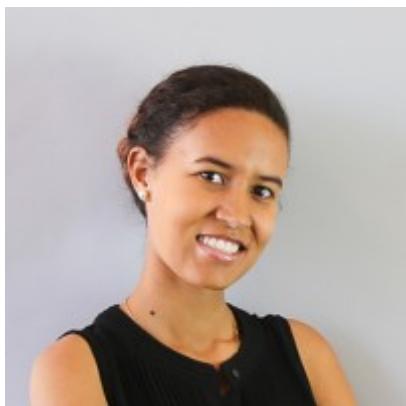
Nayan Tez is a third-year Business Data Analytics and Supply Chain Management major at the W.P. Carey School of Business at ASU. Nayan has experience as a supply chain intern working with Synergies Casting, one of Ford's wheel suppliers. He possesses valuable database skills (such as working with SQL), Microsoft Office skills (with an emphasis on Excel analytics), and Tableau. He aspires to work in the automobile industry in the future in a supply chain position. In his leisure time, Nayan loves to play squash with friends. -VS

Mat Brewer | Conation Type: Quick Start



Mat Brewer is a junior studying Computer Information Systems at ASU after having completed a year at Chandler Gilbert Community College. He currently works as a sales associate at retail goods store, Big 5, with additional experience as a part time manager at Anytime Fitness. A quick learner, his strengths include, Python, Java and SQL. Mat spends his free time studying the Japanese language, playing video games, and weight lifting. - IS

Janae Lewis | Conation Type: Fact Finder



Janae Lewis is a junior studying Computer Information Systems and Chinese. This past summer, she was a market research intern for an executive search firm, where her primary duties involved conducting research on biopharmaceutical industry trends and querying and managing the company's internal database. However, she is hoping to pursue a career in web development and studies relevant languages, tools, and frameworks in her free time. For fun, she enjoys making crafts, hiking, biking, watching films, and learning about new cultures. -MB

Team (Atlas. Co, Number 5) Charter/Code of Ethics

We, the Atlas Co. 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:

- Always be respectful and courteous to each other, regardless of the situation.
- Display candor and honesty in all our interactions.
- Ensure the highest standards of integrity and accuracy in our work.

Participation

As a project team, we will:

- Ensure a fair and equitable workload for each and every group member.
- Speak up whenever we see a problem with any aspect of our work.
- Take the initiative to discuss an issue immediately when it arises.
- Contribute actively to the brainstorming process.

Communication

As a project team, we will:

- Establish a secure and supportive line of communication.
- Assist members as a whole group in case of extenuating circumstances.
- Be considerate and respectful if disagreements arise.
- Take into account everyone's viewpoints and prevent exclusion of ideas.

Problem Solving

As a project team, we will:

- Strive to build on each other's ideas.
- Hold each other accountable when meeting certain standards.
- Encourage full group participation in solving all problems.
- Reach a full group consensus on a salient course of action for a problem.

Initials: IS, VS, VNT, MB, JL

Meeting Guidelines

As a project team, we will:

- Allocate all work for the week at each of our meetings, with the expectation that the work will be completed at each member's earliest possible convenience before the project deadline.
- Provide immediate notice upon realizing we can't attend a team meeting.
- Discuss alternatives for the work completion if one can't attend a meeting.
- Follow the corresponding meeting agenda and minimize distractions.

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:

1. The group member will be reminded on the group chat to complete their work and communicate any pre-existing barriers.
2. If the group member fails to communicate and/or complete their work repeatedly, the group will hold an intervention meeting to discuss a further course of action.
3. If the group member fails to improve their performance, the team will escalate the situation to the professor with documentation and seek recommendations.

Project Team Name: Atlas Co.

Typed Name:	Signature	Date:
Isis Sanchez	Isis Sanchez	1 - 26 - 2020
Varun Shourie	Varun Shourie	1 - 26 - 2020
Nayan Tez	Nayan Tez	1 - 26 - 2020
Mat Brewer	Mat Brewer	1 - 26 - 2020
Janae Lewis	Janae Lewis	1 - 26 - 2020

Initials: IS, VS, VNT, MB, JL

Team Profile

Current Skills

- Java
- Python
- SPSS
- Microsoft Office
- Business Writing
- Introductory SQL
- Tableau
- Communication
- Team Work
- Leadership
- Time Management

Available Technology

- Windows PCs
- Apple MacBooks
- Smartphones
- Leaders Academy printing
- Microsoft Office licenses
- Microsoft Visual Studio
- Microsoft SQL Server Management Studio
- Microsoft Azure

Meeting Times

Every Monday from 1:30pm - 2:30pm.

Proposed Assigned Tasks

Isis (Follow Through) - Responsible for planning/executing designs for deliverables.

Varun (Implementor/Facilitator) - Will turn abstract ideas into practical actions (e.g. programming databases, drafting texts) and assist members on an ad hoc basis.

Nayan (Fact Finder) - Responsible for researching and gathering necessary information.

Mat (Quick Start) - Will direct the team with tasks, provide actionable ideas, and update PowerPoint presentations throughout the semester.

Janae (Fact Finder) - Will ensure data/metadata is accurate and salient and debug code.

CLIENT INTRODUCTION:

Franklin's Management Services Inc, founded by Brick Franklin in 2002, is a property management company from Bedford Ohio. The medium sized company offers residents excellent service and knowledge relating to real estate and property management. Armed with 10 years' experience as well as general construction expertise, Franklin's provides preventative maintenance services. Including the office manager, Susan, Brick's wife, the company staffs management, office personnel, and technician positions.

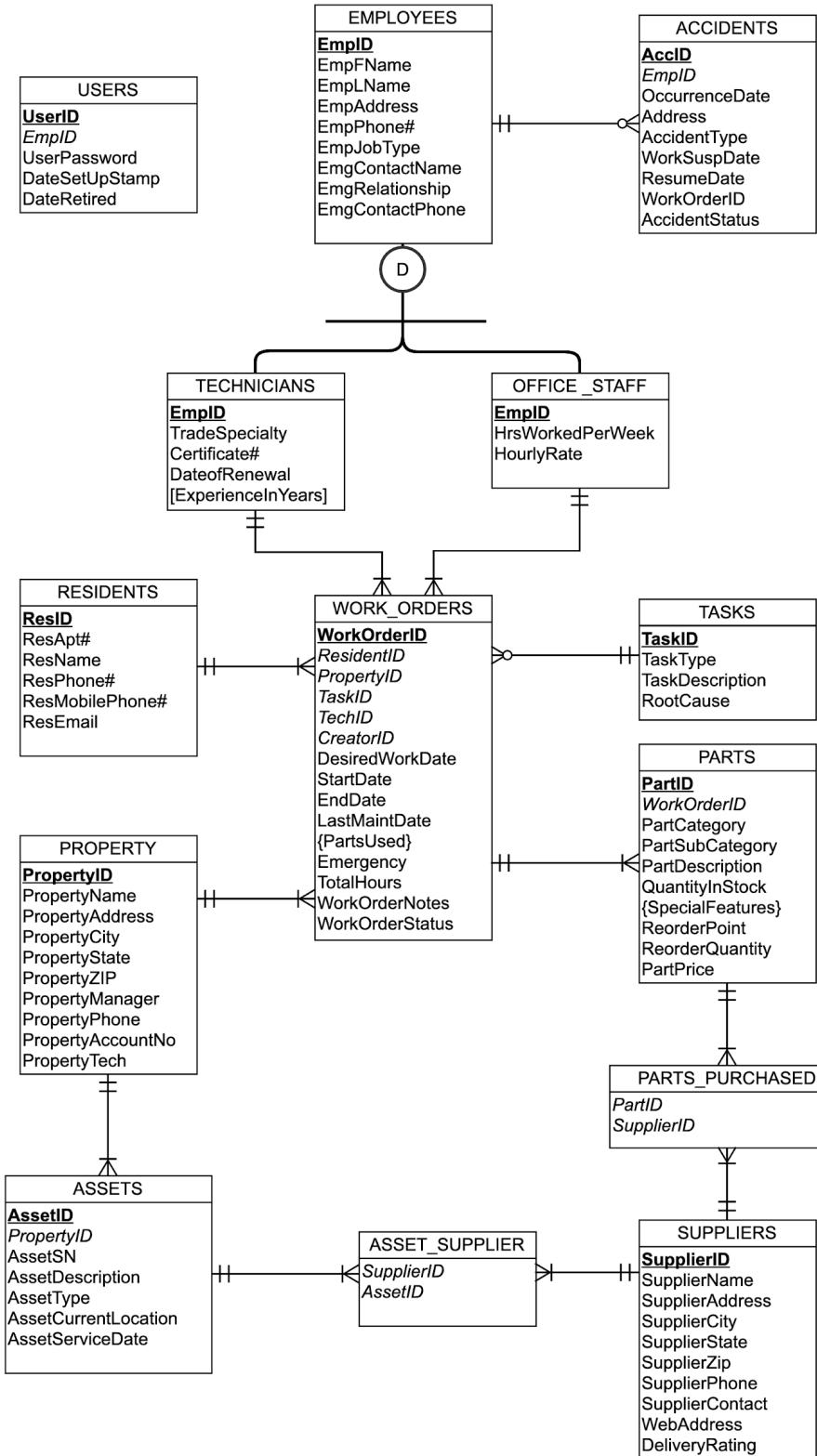
CURRENT SITUATION:

At present, records for properties, residents, tasks, suppliers, parts, assets, work orders, and users are kept current using Excel. Updating and locating the data has become inefficient for the company along with managing payroll. Susan is solely in charge of the updates resulting in piles of invoices and delays when specific information is required. A database with the capacity to handle resident and general property inquiries, including detailed information relating to work performed, is needed. Brick and Susan are also interested in a comprehensive work order table containing information specific to work orders. Additionally, in order to record identifications and passwords of all users, Susan would like a table only accessible by her. The new employees table will need to be updated to include the ability to record job restrictions/changes, an emergency contact, and accidents. Information pertaining to accidents will be housed in a new table with details, such as where the accident occurred or status.

Required Final Deliverables:

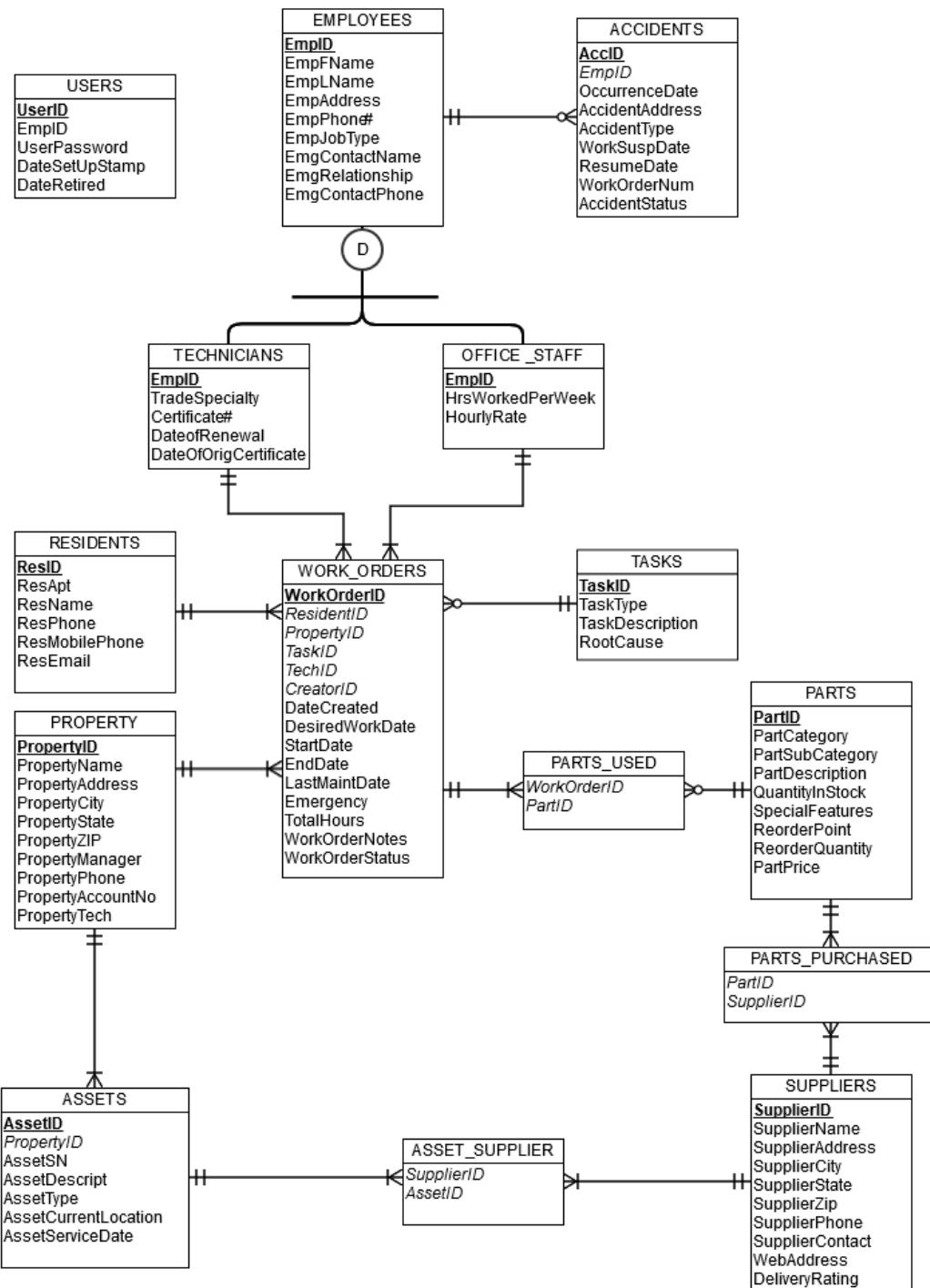
1. A listing of technicians and their total hours logged for maintenance for each property.
2. A list of work orders by date completed.
3. Property with the most emergency maintenance.
4. The technicians who must renew their trade certificates in the next month.
5. Which unit required the most maintenance in the past year?
6. Which unit required no maintenance in the past year?
7. A listing of all work orders by status.
8. A listing of technicians and the number of new work orders in the past month.
9. Residents who have had maintenance work completed in the last 6 months.
10. Number of work orders each employee created.
11. Accident report on all employees.
12. Total number of accidents per month for the past year by accident status.
13. Listing of all properties and residents.
14. A listing of users and the number of days the account was active.
15. Suppliers who have defaulted on a delivery.

Initial EERD – Franklin’s Management Services



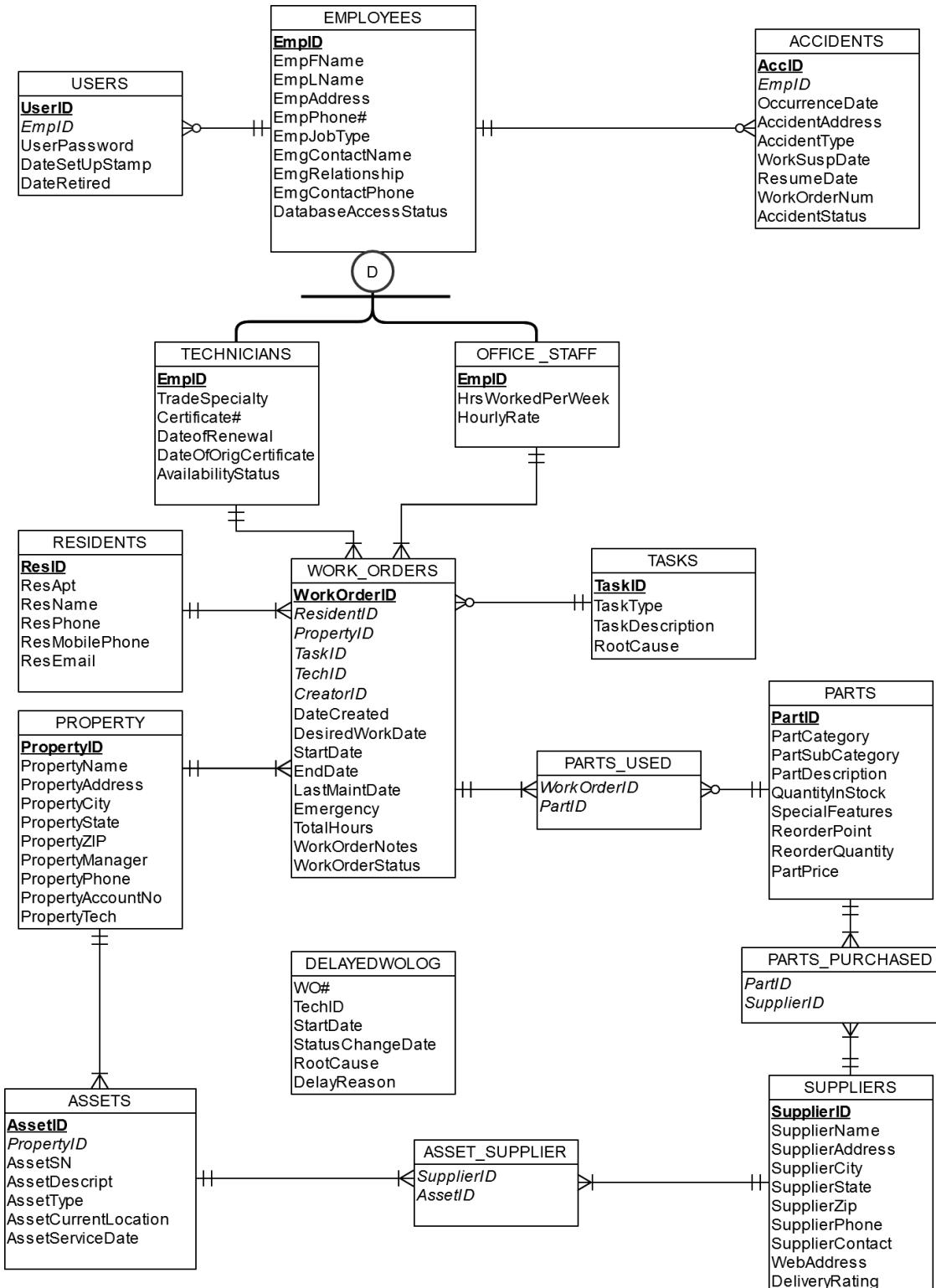
Initials: VS, IS, JL, VNT, MB

Revised EERD – Franklin’s Management Services



Initials: VS, IS, MB

Final EERD – Franklin's Management Services



Data Dictionary for Franklin's Management Services

Entity	Attribute	Definition
EMPLOYEES	EmpID	10 digit number uniquely identifying the employee, assigned by the company
EMPLOYEES	EmpFName	Employee's first name, character data, max-length 30 characters.
EMPLOYEES	EmpLName	Employee's last name, character data, max-length 30 characters.
EMPLOYEES	EmpAddress	Employee's home address, character data, max-length 100 characters. Listed as [(number) street name, city, state, ZIP code].
EMPLOYEES	EmpPhone#	Employee's listed phone number, character data, max length 12 characters, formatted as XXX-XXX-XXXX.
EMPLOYEES	EmpJobType	Distinguishes between office staff and technicians, character data, max length one character (e.g. "T" or "O")
EMPLOYEES	EmgContactName	Employee emergency contact's first and last name, character data, max-length 60 characters.
EMPLOYEES	EmgRelationship	Emergency contact's relationship to the employee, character data, max-length 30 characters.
EMPLOYEES	EmgContactPhone	Employee emergency contact's home/cell/office phone number, character data, max length 12 characters, formatted as XXX-XXX-XXXX.
EMPLOYEES	DatabaseAccessStatus	Defines an employee's access to the database, max length 8 characters. Values possible: "Active", "Inactive", or "N/A".
TECHNICIANS	EmpID	10 digit number uniquely identifying the employee, assigned by the company.
TECHNICIANS	TradeSpecialty	Technician's specific vocation, character data, max length 30 characters.
TECHNICIANS	Certificate#	ID of the technician's trade certificate, numeric data, max-length 20 digits.
TECHNICIANS	DateOfRenewal	Date of technician's trade certificate renewal,

		character data, max-length of 10 characters, formatted as yyyy-mm-dd.
TECHNICIANS	DateOfOrigCertificate	The date when the technician received their first certificate in their trade, used to derive work experience in years, character data, formatted as yyyy-mm-dd.
TECHNICIANS	AvailabilityStatus	Defines technician availability to be assigned to a work order, max 11 characters. Values possible: "Available" or "Unavailable".
OFFICE_STAFF	EmpID	10 digit number uniquely identifying the employee, assigned by the company.
OFFICE_STAFF	HrsWorkedPerWeek	Hours worked per week for office staff, numeric data, formatted as 0.00 with max-length of 4 digits & 2 decimal places.
OFFICE_STAFF	HourlyRate	Hourly pay rate for office staff, numeric data, formatted 0.00 with max-length of 5 digits & 2 decimal places.
ACCIDENTS	AccID	10 digit number uniquely identifying on-work employee accidents.
ACCIDENTS	EmpID	Employee's unique 10 digit number assigned by the company, not related to social security number or other personally identifiable information.
ACCIDENTS	OccurrenceDate	Date of the incident occurrence, character data, max length of 10 characters, formatted as yyyy-mm-dd.
ACCIDENTS	AccidentAddress	Location at which the incident occurred, character data, consists of a maximum of 100 characters. Also consists of [(number) street name, city, state, ZIP code].
ACCIDENTS	AccidentType	Type of accident the employee experienced on duty, character data, max-length of 30 characters.
ACCIDENTS	WorkSuspDate	Date in which the employee is suspended from work, character data, max length of 10 characters, formatted as yyyy-mm-dd.

ACCIDENTS	ResumeDate	Date in which the employee resumes work, character data, max length of 10 characters, formatted as yyyy-mm-dd.
ACCIDENTS	WorkOrderNum	10 digit number uniquely identifying the work order that the employee was working on, assigned randomly by the company.
ACCIDENTS	AccidentStatus	Defines the extent and gravity of the injury, character data, max 9 characters. Only three values possible: "emergency", "major", or "minor."
WORK_ORDERS	WorkOrderID	10 digit number uniquely identifying all work orders, assigned randomly by company.
WORK_ORDERS	ResidentID	10 digit number uniquely identifying each resident, assigned randomly by company.
WORK_ORDERS	PropertyID	10 digit number uniquely identifying each piece of property owned by the company.
WORK_ORDERS	TaskID	10 digit number uniquely identifying the tasks necessary to be completed for the company, assigned by the company.
WORK_ORDERS	TechID	10 digit number uniquely identifying the technician associated with the work order, assigned by the company. Same as EmpID in Technicians entity.
WORK_ORDERS	CreatorID	10 digit number uniquely identifying the employee which created the work order, assigned by the company. Same as EmpID in Office_Staff entity.
WORK_ORDERS	DateCreated	The date the work order was initially created by office staff, max length of 10 characters, formatted as yyyy-mm-dd.
WORK_ORDERS	DesiredWorkDate	Desired work date for the work order, character data, max length of 10 characters, formatted as yyyy-mm-dd.
WORK_ORDERS	StartDate	Date on which work starts in the work order, character data, max length of 10 characters, formatted as yyyy-mm-dd.

WORK_ORDERS	EndDate	End date of the work order, character data, max length of 10 characters, formatted as yyyy-mm-dd.
WORK_ORDERS	LastMaintDate	The date of the last maintenance activity for the work order, character data, max length of 10 characters, formatted as yyyy-mm-dd.
WORK_ORDERS	Emergency	Whether or not the work order is an emergency, numeric data, max length of 1 digit ("1" for yes, "0" for no, "-1" for yes due to misuse/neglect).
WORK_ORDERS	TotalHours	Total hours worked for the work order, numeric data, formatted 0.00 with max length of 5 digits and 2 decimal places.
WORK_ORDERS	WorkOrderNotes	Supplemental notes about the work order, character data, max length of 1000 characters.
WORK_ORDERS	WorkOrderStatus	Status of the work order, character data, max length of 9 characters, can hold 4 values: "assigned", "open", "delayed", or "completed".
RESIDENTS	ResID	10 digit number which uniquely identifies each resident in company properties, assigned by the company.
RESIDENTS	ResApt	Resident's apartment number, numeric data, max-length 3 digits (e.g. 101, 102, 203, etc.)
RESIDENTS	ResName	First and last name of the resident, character data, max-length 60 characters.
RESIDENTS	ResPhone	Resident's home phone number, character data, max-length 12 characters, formatted as XXX-XXX-XXXX.
RESIDENTS	ResMobilePhone	Resident's cell phone number, character data, max-length 12 characters, formatted as XXX-XXX-XXXX.
RESIDENTS	ResEmail	Resident's email to be used for electronic correspondence, character data, max-length 60 characters.
TASKS	TaskID	10 digit number uniquely identifying the tasks necessary to be completed for the company,

		assigned by the company.
TASKS	TaskType	The kind of task performed, character data, max-length 30 characters.
TASKS	TaskDescription	A basic explanation of the task, character data, max-length 100 characters.
TASKS	RootCause	An event that caused the need for a task to be completed, character data, max length of 1000 characters
PARTS	PartID	10 digit number uniquely identifying the part involved in maintenance, assigned by the company.
PARTS	PartCategory	The classification which best describes a part, character data, max-length 30 characters.
PARTS	PartSubCategory	A more detailed classification which a part belongs to, character data, max-length 30 characters.
PARTS	PartDescription	In depth explanation of a part's characteristics (such as brand and composition), character data, max-length 100 characters.
PARTS	QuantityInStock	Number of parts that are currently in stock, numeric data, max-length 3 digits.
PARTS	SpecialFeatures	Special characteristics of a part, character data, max length 100 characters.
PARTS	ReorderPoint	Number that identifies at what quantity of inventory a part should be re-ordered, numeric data, max-length 2 digits.
PARTS	ReorderQuantity	The amount of parts to reorder once the stock reaches the reorder point, numeric data, max-length 3 digits.
PARTS	PartPrice	Listed price of the part, numeric data, max-length 5-digits, formatted with 2 decimals (e.g. XX.XX or XXX.XX).
PARTS_USED	WorkOrderID	10 digit number uniquely identifying all work orders, assigned randomly by company.
PARTS_USED	PartID	10 digit number uniquely identifying the part involved in maintenance, assigned by the

		company.
PROPERTY	PropertyID	10 digit number uniquely identifying a property managed by the company, assigned by the company.
PROPERTY	PropertyName	Name of the property managed by the company, character data, max length 30 characters.
PROPERTY	PropertyAddress	Address of the property managed by the company, character data, max length 50 characters.
PROPERTY	PropertyCity	City where the property is located, character data, max length of 30 characters.
PROPERTY	PropertyState	State where the property is located, character data, max length 2 characters.
PROPERTY	PropertyZIP	ZIP code of the property address, character data, XXXXX or XXXXX-XXXX, max-length 10 characters.
PROPERTY	PropertyManager	Name of the person who manages the property, character data, max length 30 characters.
PROPERTY	PropertyPhone	Phone number attached to the property, character data, max length 12 characters, XXX-XXX-XXXX.
PROPERTY	PropertyAccountNo	Account number of the property holder, character data, max-length 16 characters.
PROPERTY	PropertyTech	Technician of the property to which he or she is assigned, character data, max-length 30 characters.
USERS	UserID	A character ID which uniquely identifies each user of the database, assigned by the company, max-length of 20 characters
USERS	EmpID	10 digit number uniquely identifying the employee, assigned by the company.
USERS	UserPassword	Password to the user's account in the database, character data, max-length 30 characters.
USERS	DateSetUpStamp	Date that the user was granted access into the database, character data, max-length 10 characters, formatted as yyyy-mm-dd

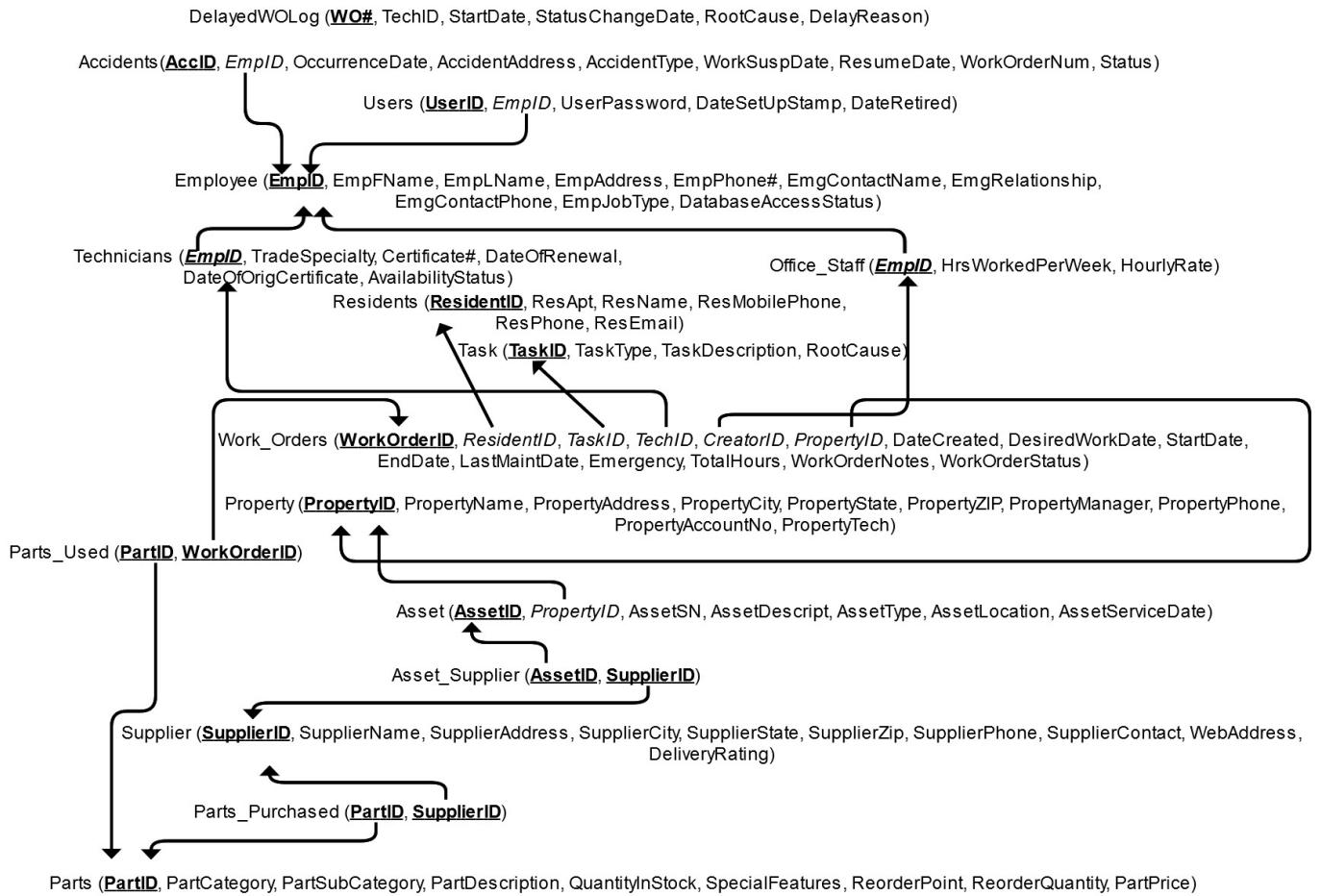
USERS	DateRetired	Date that the user's credentials were revoked,, character data, max-length 10 characters, formatted as yyyy-mm-dd
PARTS_PURCHASED	PartID	10 digit number uniquely identifying the part involved in maintenance, assigned by the company.
PARTS_PURCHASED	SupplierID	10 digit number which uniquely identifies one of the company's suppliers, assigned by the company.
SUPPLIERS	SupplierID	10 digit number which uniquely identifies one of the company's suppliers, assigned by the company.
SUPPLIERS	SupplierName	Supplier's name, character data, max-length 30 characters.
SUPPLIERS	SupplierAddress	Supplier's address, character data, max-length 100 characters.
SUPPLIERS	SupplierCity	Supplier's city location, character data, max-length 30 characters.
SUPPLIERS	SupplierState	Supplier's state location, character data, max-length 2 characters.
SUPPLIERS	SupplierZIP	Supplier's ZIP code, character data, max-length 10 digits, XXXXX or XXXXX-XXXX.
SUPPLIERS	SupplierPhone	Supplier's phone number, character data, max-length 10 digits, (XXX)-XXX-XXXX.
SUPPLIERS	SupplierContact	Name of the supplier's contact person, character data, max-length 60 characters.
SUPPLIERS	WebAddress	Supplier's website address (aka URL), character data, max-length 200 characters.
SUPPLIERS	DeliveryRating	Supplier's quality of delivery, character data, max-length 30 characters. Can assume values such as "late, damaged, on-time, defaulted, etc."
ASSETS	AssetID	10 digit number which uniquely identifies one of the assets under the company's control, assigned by the company.
ASSETS	PropertyID	10 digit number uniquely identifying a property

		managed by the company, assigned by the company.
ASSETS	AssetSN	Serial number of the asset under company control, assigned by the manufacturer of the asset, maximum length of 20 characters.
ASSETS	AssetDescript	Detailed explanation of the asset, character data, max-length 100 characters.
ASSETS	AssetType	Type of the asset under company control, character data, max-length 60 characters.
ASSETS	AssetLocation	Current location of the asset, character data, max-length 60 characters. For example, this is usually a room or a specific building.
ASSETS	AssetServiceDate	Date of the maintenance service performed upon the asset, character data, max-length 10 characters, formatted as yyyy-mm-dd.
ASSET_SUPPLIER	SupplierID	10 digit number which uniquely identifies one of the company's suppliers, assigned by the company.
ASSET_SUPPLIER	AssetID	10 digit number which uniquely identifies one of the assets under the company's control, assigned by the company.
DelayedWOLog	WO#	10 digit number uniquely identifying all work orders, assigned randomly by company.
DelayedWOLog	StartDate	Date on which work starts in the work order, character data, max length of 10 characters, formatted as yyyy-mm-dd.
DelayedWOLog	TechID	10 digit number uniquely identifying the technician associated with the work order, assigned by the company. Same as EmpID in Technicians entity and TechID in Work_Orders entity.
DelayedWOLog	StatusChangeDate	Date on which the work order status was changed, character data, max-length 10 characters, formatted as yyyy-mm-dd.
DelayedWOLog	RootCause	An event that caused the need for a task to be

		completed, character data, max length of 1000 characters. Same as RootCause in Tasks entity.
DelayedWOLog	DelayReason	Supplemental notes relating to cause for delay, character data, max length of 1000 characters.

Initials: VS, JL, IS, VNT, MB

Relational Schema - Franklin's Management Services



Initials: VS, IS

Screen Capture of All Tables Implemented in SQL Server

(labeled, with data) of your relational design implemented in SQL Server

SQLQuery1.sql - a...UAD\mbrewer7 (63)* ➔ X

```
--Select from ACCIDENTS table
SELECT *
FROM ACCIDENTS
```

100 %

	AccID	EmpID	OccurrenceDate	AccidentAddress	AccidentType	WorkSuspDate	ResumeDate	WorkOrderNum	Status
1	1362776825	7944061124	2011-11-28	1413 S Lynx Dr, Tucson, AZ, 85713	Fell down stairs	2011-11-29	2011-12-02	1403604079	Minor
2	1647133129	4118122171	2012-06-18	288 West Mirrorsway, Tempe, AZ, 85280	Fell down stairs	2012-06-19	2012-11-24	3995754290	Major
3	2245027268	9475027393	2017-11-06	777 W Chandler Blvd, Chandler, AZ, 85225	Swallowed ink	2017-11-07	2017-11-10	9941356906	Minor
4	2292385158	0333456789	2018-02-04	50809 439th Ave, Wickenburg, AZ, 85390	Attacked by dog	2018-02-05	2018-02-24	2823168372	Major
5	2305684419	0533456789	2012-11-07	507 E Queen Creek Dr Apache Junction, AZ, 85218	Car crash	2012-11-08	2012-03-22	6885032822	Major
6	2343636969	2346969567	2018-11-07	333 North Scottsdale Road, Scottsdale, AZ, 85260	Fall from ladder	2018-11-08	2019-01-07	8883412745	Major
7	2596110249	0490721952	2016-07-07	247 E Gold Dust Way San Tan Valley, AZ, 85143	Fell down ladder	2016-07-08	2016-07-13	8958203970	Minor
8	2811356748	5368939476	2018-03-23	302 N Colorado St, Casa Grande, AZ, 85222	Hand crushed by door	2018-03-24	2018-04-01	3106504382	Minor
9	2991460024	8190360250	2018-02-06	728 East Cave Creek Road, Tucson, AZ, 85701	Hit by delivery truck	2018-02-07	2018-11-02	8551053772	Major
10	3510085322	3459851464	2015-04-06	5646 S Creosote Dr, Apache Junction, AZ, 85218	Fell from ladder	2015-04-07	2015-07-28	9570860474	Major
11	3538442355	0233456789	2012-06-20	508 E Silver Reef Rd Casa Grande, AZ, 85222	Car crash	2012-06-22	2012-06-23	7858463220	Minor
12	3658145182	3781003956	2014-09-16	563 East Elliot Road, Gilbert, AZ, 85234	Fell from vehicle	2014-09-17	2014-09-19	9770738170	Minor
13	4210463330	4270591322	2011-11-17	305 South Ocean Avenue, Scottsdale, AZ, 85254	Car crash	2011-11-18	2012-05-25	8376692785	Eme...
14	4343294424	5425516460	2013-03-28	482 S Citrus Ln, Gilbert, AZ, 85297	Car crash	2013-03-28	2013-08-01	3764221288	Major
15	5386717650	4808236737	2019-10-12	374 North Sol Drive, Scottsdale, AZ, 85254	Car crash	2019-10-13	2019-10-22	3859250776	Minor
16	5409798359	1212477095	2016-10-18	483 South Desert Way, Gilbert, AZ, 85295	Hit by falling toolbox	2016-10-19	2016-10-26	4949152628	Minor
17	5537850105	8563223391	2014-01-06	5635 E La Privada Dr, Comville, AZ, 86325	Car crash	2014-01-07	2014-02-03	4777829942	Minor
18	5581334367	1712589358	2013-10-22	3115 N Fairview Ave Tucson, AZ, 85705	Car crash	2013-10-23	2014-02-17	8581511497	Eme...
19	5679555962	1606392601	2011-11-22	192 East Sideview Avenue Chandler, AZ 85794	Cut fingertip	2011-11-23	2011-11-25	9977749895	Minor
20	5952934898	2911836367	2019-12-25	565 N College Ave Thatcher, AZ, 85552	Car crash	2019-12-27	2020-07-23	8248297259	Eme...
21	6322192195	4359307467	2015-02-24	212 West Quail Trail, Queen Creek, AZ, 85296	Caught in machinery	2015-02-25	2015-06-02	2282064117	Major
22	6334059225	8149842015	2015-06-29	350 Navajo Trl, Sedona, AZ, 86336	Crushed by machinery	2015-06-29	2016-02-19	9292315503	Major
23	6927791567	0485646926	2010-01-29	912 East Hunters Way, Tucson, AZ, 85701	Slip on puddle	2010-02-02	2010-02-14	1321165208	Minor

Query executed successfully.

acadsql17.asurite.ad.asu.edu | ASUAD\mbrewer7 (63) | SP20_CIS365_19668_TEAM5 | 00:00:00 | 31 rows

SQLQuery1.sql - a...UAD\mbrewer7 (63)* X

```
--Select from ASSET_SUPPLIER table
SELECT *
FROM ASSET_SUPPLIER
```

100 %

Results Messages

	SupplierID	AssetID
1	1037967536	0030025687
2	1037967536	2874624385
3	1381926231	3716163365
4	1381926231	4887684630
5	1553882107	0030025687
6	1553882107	2874624385
7	2258230140	3561854783
8	2258230140	4064557878
9	2494883889	6413571648
10	2494883889	7755135477
11	2801844619	0031761327
12	2801844619	8175360338
13	3777820462	4064557878
14	3777820462	6144830306
15	4085239879	0675414264
16	4085239879	4631604003
17	4342523903	7261845041
18	4342523903	8104801867
19	4559406715	4887684630
20	4559406715	7755135477
21	4803857906	5513614634
22	4803857906	5724880563
23	5238708950	3677545754

JAD\mbrewer7 (63) | SP20_CIS365_19668_TEAM5 | 00:00:00 | 60 rows

SQLQuery1.sql - a...UAD\mbrewer7 (63)* X

```
--Select from ASSETS table
SELECT *
FROM ASSETS
```

100 %

Results Messages

	AssetID	PropertyID	AssetSN	AssetDescript	AssetType	AssetLocation	AssetServiceDate
1	0030025687	7175608493	NULL	Back Parking Lot - 75 spaces	Facility	Back Parking Lot	2020-08-12
2	0031761327	9534546401	CC2987Y367	Cafeteria Water Filter	Fixed Equip	Bldg 1	2011-05-30
3	0318380513	2637367579	P70600395z	1995 Ford F150	Vehicle	Space 21	2013-07-31
4	0652616070	1401958674	NULL	NULL	NULL	Bldg 5	2007-01-02
5	0675414264	4974134203	F1345	Building Number 101	Facility	Bldg 3	2007-11-20
6	0862383767	2688090757	9234856184XR	Ice Machine	Fixed Equip	Bldg 101	2011-03-01
7	1753414201	5199704710	GENR13749	Cafeteria Refrig & Freezer Sys	Fixed Equip	Bldg 4	2015-02-17
8	2770851116	5729827879	5718559457SS	Emergency Lighting Sys, Bldg 101	Fire Lighting	Bldg 6	2013-02-05
9	2874624385	6616852224	9052791	master sink	NULL	Bldg 101	2018-05-14
10	3561854783	2556275703	10793242	Hand Held Fire Extinguisher	Fire Extinguisher	Bldg 102	2003-02-12
11	3677545754	8258600723	9852554420MS	Emergency Generator	Generator	Maintenance Shed	2016-08-22
12	3716163365	3708287043	z4227938974	Hand Held Fire Extinguisher	Fire Extinguisher	Bldg 102	2019-10-16
13	4064557878	5395507870	6613522754	Fire Sprinkler System, Bldg 101	Fire Sprinkler	NULL	2008-03-07
14	4631604003	7837624090	MAR279	Building Number 102	Facility	Bldg 3	2010-11-02
15	4764247258	3062548195	7586533	Entrance Doors Bldgs. 101, 102	Facility	NULL	2013-04-02
16	4887684630	4747992070	334517089bk	Hand Held Fire Extinguisher, Bldg 101	Fire Extinguisher	Bldg 101	2010-07-26
17	5188651258	6298846818	NULL	Fire Hose Cabinet, Bldg 101	Fire Hose	Hallway 1-2	2015-11-13
18	5513614634	1778307452	NULL	Lobby in Building 101	NULL	NULL	2013-04-01
19	5724880563	3199428180	NULL	Front Parking Lot - 50 spaces	Facility	Front Parking Lot	2018-07-12
20	6121002727	5734709966	NULL	Fire Hose Cabinet, Bldg 102	Fire Hose	Hallway 2-1	2004-03-16
21	6144830306	9376688927	B387900	Fire Sprinkler System, Bldg 102	Fire Sprinkler	NULL	2013-03-15
22	6413571648	6259318173	NULL	Fire Hose Cabinet, Bldg 102	Fire Hose	Hallway 2-1	2005-06-23
23	7204512486	2908997799	99678994	Property Grounds/Landscaping	NULL	NULL	2017-04-10

Query executed successfully. | acadsql17.asurite.ad.asu.edu | ASUAD\mbrewer7 (63) | SP20_CIS365_19668_TEAM5 | 00:00:00 | 30 rows

SQLQuery1.sql - a...UAD\mbrewer7 (63)* ↗ ×

```
--Select from DelayedWOLog table
SELECT *
FROM DelayedWOLog
```

100 %

Results Messages

	WO#	StartDate	TechID	StatusChangeDate	RootCause	DelayReason
1	2393881879	2020-04-06	0433456789	2020-04-26 12:01:43.417	car crashed into it	Improper tools
2	9375544818	2002-07-27	2051366864	2020-04-26 12:01:46.580	NULL	Missing part

SQLQuery1.sql - a...UAD\mbrewer7 (63)* X

```
--Select from EMPLOYEES table
SELECT *
FROM EMPLOYEES
```

100 %

	EmpID	EmpFName	EmpLName	EmpAddress	EmpPhone#	EmpJobType	EmgContactName	EmgRelationship	EmgContactPhone	DatabaseAccessStatus
1	0042412788	Arianna	Garcia	10024 South Fountain Avenue, Pasadena, CA, 81003	230-743-8235	O	Andre Garcia	Husband	155-520-7776	N/A
2	0123456789	John	Smith	1234 East Adams Street, Phoenix, AZ 99921	333-345-5555	T	Jane Smith	Mother	222-222-2222	N/A
3	0133456789	Mo	Bamba	89000 North Jackson Street, Nashville, TN 90821	101-439-5661	T	Abbie Bamba	Girlfriend	971-449-9562	N/A
4	0233456789	LeBron	James	89021 North Jackson Street, Nashville, TN 90821	353-243-5081	T	Savannah James	Wife	808-597-9280	N/A
5	0333456789	Damian	Lillard	89045 North Jackson Street, Nashville, TN 90821	356-104-5871	T	Nyjah Lillard	Girlfriend	408-467-5393	N/A
6	0344221044	Aria	Johnson	10007 South Fountain Avenue, Pasadena, CA, 81003	175-057-5082	O	Matt Sopha	Boyfriend	865-247-5083	N/A
7	0433456789	Bradley	Beal	90782 North Jackson Street, Nashville, TN 90821	694-885-9647	T	Chloe McIntosh	Girlfriend	945-680-1191	N/A
8	0485646326	Django	Unchained	23456 Hocus Pocus Boulevard, Denver, CO 42069	933-249-7273	T	Kerry Washington	Wife	924-225-2183	Inactive
9	0490721952	Alec	Baldwin	90234 Hollywood Boulevard, Los Angeles, CA 56701	122-680-2312	T	Alexandra Baldwin	Mother	231-404-8438	Active
10	0533456789	Dwayne	Wade	10234 North Jackson Street, Nashville, TN 90821	597-334-7635	T	Gabrielle Union	Wife	141-759-1802	N/A
11	0713445833	Aurora	Anderson	10016 South Fountain Avenue, Pasadena, CA, 81003	321-223-2307	O	James Bond	Boyfriend	263-854-7765	N/A
12	0736351400	Zoe	Miller	10012 South Fountain Avenue, Pasadena, CA, 81003	024-860-2333	O	Andre Miller	Husband	456-832-5257	N/A
13	1184867627	Cora	White	10020 South Fountain Avenue, Pasadena, CA, 81003	337-830-6505	O	Haroon Elvis	Boyfriend	858-726-8731	N/A
14	1212477095	Jack	Bosco	12345 North 69th Avenue, Glendale, AZ 85308	623-456-9087	T	Donnie Bosco	Father	810-336-4904	Inactive
15	1231737523	Matt	Damon	28901 Hollywood Boulevard, Los Angeles, CA 56701	952-997-8594	T	Angie Damon	Girlfriend	893-234-8905	Active
16	1333527072	Michelle	Obama	10002 South Fountain Avenue, Pasadena, CA, 81003	873-425-8235	O	Barack Obama	Husband	588-165-1870	N/A
17	1430236724	Raelynn	Rodriguez	10028 South Fountain Avenue, Pasadena, CA, 81003	540-524-1621	O	Preston Rodriguez	Husband	337-302-5533	N/A
18	1606392601	Brad	Pitt	89300 Hollywood Boulevard, Los Angeles, CA 56701	869-600-9586	T	Angelina Jolie	Girlfriend	416-287-4942	Active
19	1712589358	Victor	Charles	78902 West Paradise Lane, Glendale, AZ 85308	453-673-2965	T	Charlotte Charles	Girlfriend	239-931-3917	Active
20	2051366864	Jay	Leno	15678 Adams Street, Phoenix, AZ 85800	461-316-7364	T	Maxwell Leno	Father	713-724-5135	Inactive
21	2346969567	Jones	MF	1234 East Adams Street, Phoenix, AZ 99921	333-345-5555	T	Jane Smith	Mother	222-222-2222	N/A
22	2531566610	Violet	Taylor	10015 South Fountain Avenue, Pasadena, CA, 81003	672-507-6766	O	Dashiel Hammett	Boyfriend	308-263-5564	N/A
23	2612804505	John	Sandusky	34087 West Paradise Lane, Glendale, AZ 85308	853-858-7848	T	Isabella Sandusky	Daughter	125-522-6384	Active

Query executed successfully.

acadsq17.asurite.ad.asu.edu | ASUAD\mbrewer7 (63) | SP20_CIS365_19668_TEAM5 | 00:00:00 | 61 rows

SQLQuery1.sql - a...UAD\mbrewer7 (63)* X

```
--Select from OFFICE_STAFF table
SELECT *
FROM OFFICE_STAFF
```

100 %

Results Messages

	EmpID	HrsWorkedPerWeek	HourlyRate
1	0042412788	42.69	35.54
2	0344221044	35.11	21.42
3	0713445833	39.32	30.79
4	0736351400	26.20	20.98
5	1184867627	36.11	26.77
6	1333527072	44.90	35.58
7	1430236724	32.13	35.88
8	2531566610	49.95	15.73
9	3328752545	25.88	34.31
10	3455702072	40.03	36.69
11	3663027200	29.76	23.08
12	4058468001	44.72	22.13
13	4174185851	30.27	22.63
14	4714353184	27.40	22.92
15	4723257262	26.04	35.23
16	4822341807	38.66	33.24
17	5051725583	34.12	30.04
18	5873457506	45.27	26.34
19	6050131166	31.43	38.74
20	6571006678	46.20	18.70
21	6736040412	45.09	30.23
22	6807186162	44.54	21.35
23	7312534106	42.51	33.32

\SUAD\mbrewer7 (63) | SP20_CIS365_19668_TEAM5 | 00:00:00 | 30 rows

--Select from PARTS table

```
--Select from PARTS table
SELECT *
FROM PARTS
```

100 %

Results Messages

	PartID	PartCategory	PartSubCategory	PartDescription	QuantityInStock	SpecialFeatures	ReorderPoint	ReorderQuantity	PartPrice
1	0024568121	Service	Labor	Hour of Labor	9	NULL	2	10	290.00
2	0375280087	Compressors	2hp Air Compressor	2.4Cfm @ 130 Psi, 4 Gal Hotdog, 120V	442	Turbine imported from Canada	78	841	862.17
3	0547436820	HVAC	Air Quality	Air Filter 24x24x2	104	NULL	38	670	952.27
4	0818355604	HVAC	Air Quality	Air Filter 12x24x2	278	NULL	22	930	238.30
5	0866242420	HVAC	Air Quality	Air Filter 12x24x1	10	NULL	80	390	858.37
6	1204535835	Nuts/Bolts/Screws	Screw	1/4-1-19 Phillips Panhead Sheet Metal Screw	611	Code 51970 functionality	74	872	756.79
7	1356860564	Lubricants	Compressor Oil, 5 Gal	Refrigerator, Compressor Oil	753	Has an alkaline pH	86	530	341.52
8	1665485535	Pumps	1" Diaphragm Pump	Stainless Steel w/ Santoprene Diaphragm	329	NULL	32	493	520.70
9	2017272650	Pumps	1.5" Diaphragm Pump	Stainless Steel w/ Santoprene Diaphragm	863	NULL	74	418	66.27
10	2025818582	Pumps	3" Diaphragm Pump	Stainless Steel w/ Santoprene Diaphragm	723	NULL	15	166	738.87
11	2145801385	HVAC	Air Quality	Air Filter 26x30x5	727	NULL	46	888	152.42
12	2373842102	Lubricants	Compressor Oil, 2 Gal	Refrigerator, Compressor Oil	444	Extra viscosity	49	81	154.49
13	2477146513	Blowers	Belt-Drive Industrial Blowers	17" W/2 Hp, 1Ph, 115/230v Motor	807	Electric battery-powered	76	371	447.54
14	3048021228	HVAC	Air Quality	Air Filter 20x20x2	587	NULL	79	9	56.98
15	3128304548	Blowers	Belt-Drive Industrial Blowers	18" W/2 Hp, 1Ph, 130/245v Motor	361	LPG natural gas powered	37	565	227.39
16	3534547408	Compressors	3hp Air Compressor	2.5Cfm @ 135 Psi, 5 Gal Hotdog, 125V	733	Turbine imported from Germany	50	916	149.94
17	3564537651	Pumps	2" Diaphragm Pump	Stainless Steel w/ Santoprene Diaphragm	201	NULL	49	842	5.67
18	4085468765	HVAC	Air Quality	Air Filter 30x20x5	69	NULL	58	852	233.61
19	4483862646	Nuts/Bolts/Screws	Bolt	1/2-13 X 3" Grade 9 Hex Head Bolt	312	Grade 9 Hex Head Bolt	82	85	465.93
20	4756584867	Lubricants	Compressor Oil, 1 Gal	Refrigerator, Compressor Oil	589	Composed of hydrocarbons and alphaolefins	6	151	948.58
21	4843773686	Blowers	Belt-Drive Industrial Blowers	16" W/2 Hp, 1Ph, 115/230v Motor	702	Gasoline-powered	74	561	839.04
22	5270358105	HVAC	Air Quality	Air Filter 30x40x10	490	NULL	59	931	402.52
23	5426810347	Blowers	Belt-Drive Industrial Blowers	20" W/2 Hp, 1Ph, 140/255v Motor	800	Hydrogen fuel-cell powered	29	592	671.63

Query executed successfully.

acadsql17.asurite.ad.asu.edu | ASUAD\mbrewer7 (63) | SP20_CIS365_19668_TEAM5 | 00:00:00 | 31 rows

SQLQuery1.sql - a...UAD\mbrewer7 (63)* X

```
--Select from PARTS_PURCHASED table
SELECT *
FROM PARTS_PURCHASED
```

100 %

Results Messages

	PartID	SupplierID
1	0375280087	8061529499
2	0375280087	8388174425
3	0547436820	2801844619
4	0547436820	8192075871
5	0818355604	4085239879
6	0818355604	9966475858
7	0866242420	4085239879
8	0866242420	9966475858
9	1204535835	1037967536
10	1204535835	1553882107
11	1356860564	2494883889
12	1356860564	4559406715
13	1665485535	2494883889
14	1665485535	4559406715
15	2017272650	1381926231
16	2017272650	5275376893
17	2025818582	2258230140
18	2025818582	3777820462
19	2145801385	4342523903
20	2145801385	7606421267
21	2373842102	5637175929
22	2373842102	9936615889
23	2477146513	5238708950

er7 (63) | SP20_CIS365_19668_TEAM5 | 00:00:00 | 60 rows

SQLQuery1.sql - a...UAD\mbrewer7 (63)* X

```
--Select from PARTS_USED table
SELECT *
FROM PARTS_USED
```

100 %

Results Messages

	WorkOrderID	PartID
1	0245421460	0024568121
2	0245421460	0818355604
3	0245421460	0866242420
4	1329486777	4483862646
5	1329486777	5426810347
6	1642972264	2025818582
7	1642972264	6453146137
8	1665308421	2145801385
9	1665308421	5270358105
10	1858869730	1204535835
11	1858869730	8850646215
12	2168612953	0547436820
13	2168612953	3048021228
14	2393881879	1204535835
15	2393881879	3048021228
16	3076766960	2477146513
17	3076766960	4843773686
18	3574393747	3128304548
19	3574393747	7872520312
20	4329033923	2025818582
21	4329033923	4843773686
22	4727804957	0375280087
23	4727804957	3534547408

er7 (63) | SP20_CIS365_19668_TEAM5 | 00:00:00 | 59 rows

SQLQuery1.sql - a...UAD\mbrewer7 (63)* → X

```
--Select from PROPERTY table
SELECT *
FROM PROPERTY
```

100 %

Results Messages

	PropertyID	PropertyName	PropertyAddress	PropertyCity	PropertyState	PropertyZIP	PropertyManager	PropertyPhone	PropertyAccountNo	Property Tech
1	1234569603	El poyoso	193457 East wnjwata	Mesa	AZ	85142	Jeanette Pierce	000-000-0000	0000000000000001	Joshua Gray
2	1401958674	Conchas	7686 Pennington St.	Winkelman	AZ	85192	Frederick Smith	383-228-9193	9813114865796814	Jesse Ramirez
3	1475863308	Sol Rojo	1 Snake Hill Ave.	Catalina	AZ	85738	Simon Parker	814-570-4662	0889826087463648	Shawn Watson
4	1778307452	La Paz	8887 Anderson Avenue	Superior	AZ	85273	Alexa Valenzuela	953-625-9896	6560393224584714	Alejandro Ruiz
5	2499080739	Las Nubes	453 Middle St.	Peoria	AZ	85383	Anika Jones	267-345-6676	2630669620468203	Benjamin Parker
6	2556275703	La Alma	7024 Chestnut Drive	Yuma	AZ	85365	Hannah Nguyen	991-499-3619	0063621306855729	Joe Cook
7	2637367579	La Manta	61 S. York Rd.	Lukeville	AZ	85341	Spencer Thompson	974-621-1582	1880095808561907	Diane Janes
8	2688090757	Bogota	460 Oak St.	Safford	AZ	85548	Jacob Richards	958-906-8824	0097191912256572	Sonja Norman
9	2908997799	Guadalajara	636 Clark Drive	Marble Canyon	AZ	86036	Kia Cole	442-861-3184	4383634275778438	Katrina Diaz
10	3062548195	El Cielo	44 Iroquois Dr.	Ajo	AZ	85321	Veronica Pery	716-284-8340	0071558953727405	Rebecca Perez
11	3199428180	Lima	4 Grime St.	Tempe	AZ	85281	Gabriel Santos	698-751-0768	2207453354499556	Lindsay Beck
12	3708287043	El Lapiz	7615 Mechanic Dr.	Fort Huachuca	AZ	85670	Jack Healy	848-553-5413	6876149782170968	James Li
13	3914768329	Aguas Frescas	570 S. Summit Ave.	Apache Junction	AZ	85220	Alexandra Peterson	677-777-6173	4270292894585138	Kevin Sanders
14	4123454203	El camino	2085 East Camina Plata	Tempe	AZ	85142	Jeanette Pierce	000-000-0000	0000000000000001	Joshua Gray
15	4399332669	La Casa	710 Cactus St.	Hualapai	AZ	86412	Delaney Hewitt	242-911-0024	6781746544571617	Louis Moore
16	4456784203	El modda	1455 East Camina Plata	Tempe	AZ	85142	Jeanette Pierce	000-000-0000	0000000000000001	Joshua Gray
17	4696994203	na puku	14527 East Camina Plata	Mesa	AZ	85142	Jeanette Pierce	000-000-0000	0000000000000001	Joshua Gray
18	4747992070	Las Estrellas	365 Railway Ave.	Bouse	AZ	85325	Laura Johnson	689-423-5053	6983492307000941	Deborah Brown
19	4912345203	El playa	rwr EassdkPlata	Tempe	AZ	85142	Jeanette Pierce	000-000-0000	0000000000000001	Joshua Gray
20	4971234503	El loco	1e3 lanjana Plata	Mesa	AZ	85142	Jeanette Pierce	000-000-0000	0000000000000001	Joshua Gray
21	4971234563	puku naku	24r kojuru Palstaa	Tempe	AZ	85142	Jeanette Pierce	000-000-0000	0000000000000001	Joshua Gray

Query executed successfully. | acadsql17.asurite.ad.asu.edu | ASUAD\mbrewer7 (63) | SP20_CIS365_19668_TEAM5 | 00:00:00 | 38 rows

SQLQuery1.sql - a...UAD\mbrewer7 (63))*

```
--Select from RESIDENTS table
SELECT *
FROM RESIDENTS
```

100 %

Results Messages

	ResidentID	ResApt	ResName	ResPhone	ResMobilePhone	ResEmail
1	1594262954	523	Marcus Mitchell	275-680-2456	276-680-2456	marc_mitchell@gmail.com
2	1766091032	206	Nathan Jones	581-485-4901	341-483-9189	nathanjones@gmail.com
3	2263909583	316	Ruth Greene	315-056-4997	NULL	ruthgreene@gmail.com
4	2640852291	766	Jennifer Smith	174-340-4593	750-540-4234	jennifersmith@gmail.com
5	3308976270	444	Glenn Clarke	NULL	258-575-0306	glennclarke@gmail.com
6	3498751707	286	Kristina Rangel	956-337-2629	NULL	kristinarangel@gmail.com
7	3673914534	410	Sophia Jackson	821-934-2000	103-325-0032	sophiajackson3@gmail.com
8	3780896439	397	Kiara Johnson	327-544-3537	326-544-3537	kjohnson4@gmail.com
9	3786184210	198	Jennifer Gardner	583-911-0103	847-004-1551	jennifergardner@gmail.com
10	4557820611	126	Lawrence Curtis	640-498-5677	641-498-5677	lawrence_c_8@gmail.com
11	4923659143	561	Steven Lin	737-718-9661	NULL	steve.lin@gmail.com
12	5160253592	284	Kenneth Thomas	838-020-3838	NULL	kenneththomas@gmail.com
13	5210153759	956	Michelle Jordan	856-668-3005	130-890-2139	michellejordan@gmail.com
14	5252053437	628	Brandon Pena	181-093-9879	NULL	brandonpena@gmail.com
15	5983055224	684	Elizabeth Moore	704-248-0861	808-016-8528	elizabethmoore@gmail.com
16	6080760445	611	Jennifer King	974-399-1119	973-399-1119	jenniferking@gmail.com
17	6393256990	169	Jamal Brown	527-372-6353	529-372-0093	jamal.brown@yahoo.com
18	7253005310	137	Jordan Miller	522-988-7578	893-376-6982	jordanmiller@gmail.com
19	7642795175	438	Jacqueline Smith	893-445-1089	894-445-1089	jackies633@gmail.com
20	7672339205	402	Sandra Logan	NULL	885-962-5352	sandra_logan@gmail.com
21	7680637430	122	Lisa Andrews	567-553-9190	567-553-9190	lisa.andrews@hotmail.com
22	7883078832	305	Thomas Miller	824-690-6153	825-690-6153	1tom.miller@gmail.com
23	8227372978	441	Zachary Evans	NULL	320-891-1284	zacharyevans@gmail.com

Query exe... | acadsq17.asurite.ad.asu.edu | ASUAD\mbrewer7 (63) | SP20_CIS365_19668_TEAM5 | 00:00:00 | 30 rows

SQLQuery1.sql - a...UAD\mbrewer7 (63)* X

```
--Select from SUPPLIERS table
SELECT *
FROM SUPPLIERS
```

100 %

Results Messages

	SupplierID	SupplierName	SupplierAddress	SupplierCity	SupplierState	SupplierZip	SupplierPhone	SupplierContact	WebAddress	DeliveryRating
1	1037967536	David Cordova	92759 Bennett Curve Apt. 069	Leefort	OR	64844	415-563-7838	Amanda Williams	davidcordova.com	on-time
2	1381926231	Shannon Taylor	USNS Carter	Scottsdale	AZ	30371	298-582-8651	Maria Lee	shannontaylor.com	on-time
3	1553882107	Richard Shelton	1311 Martinez Drives Suite 336	Grahamview	TN	31408	451-811-8398	Earl Key MD	RichardShelton.com	on-time
4	2258230140	Thomas Phillips	USS Rios	Phoenix	AZ	11620	965-522-8302	Matthew Salazar	thomasphillips.com	on-time
5	2494883889	Robert Wells	6367 Phillips Ways	Andreahaven	WI	89389	185-829-1563	Adrian Simmons	Robertwells.com	on-time
6	2801844619	John Rollins	6547 Benitez Streets Suite	Halefurt	GA	06267	116-746-6015	Kristen Burke	JohnRollins.com	on-time
7	3777820462	Natasha Caldwell	7028 McIntyre Ways Port	Amandachester	AR	27270	578-461-9379	Eric Brown	natashacaldwell.com	Defaulted
8	4085239879	Peter Smith	709 Tina Squares	Tumerton	TX	81202	535-500-9836	Alyssa Fisher	Petersmith.com	on-time
9	4342523903	Jared Rodriguez	8038 Adams Crest Suite 086	Wigginsmouth	MI	25604	773-289-7132	Jeffery Jackson	JaredRodriguez.com	on-time
10	4559406715	Gary Jacobs	47474 Timothy Wells	Richardfurt	IA	61517	519-488-4322	Tony Green	garyjacobs.com	on-time
11	4803857906	Tanya Gay	139 Joseph Village West	Melissaland	IA	17412	115-584-7437	Melody Bender	tanyagay.com	on-time
12	5238708950	Daniel Watson	3691 Kimberly Union Suite 892	Masonville	LA	91729	728-396-5022	Brittney James	danielwatson.com	on-time
13	5275376893	Andrew Moore	524 Robert Mews	Raymondchester	IA	90875	170-611-2665	Amanda Russell	Andrewmoore.com	damaged
14	5444293005	Kari Moore	71554 Gould Square	Andreshire	IL	06612	847-865-9292	Kevin Williams	KariMoore.com	on-time
15	5637175929	Jordan Bryan	5684 Henry Land	Mckinneyside	AL	74341	531-846-6707	Kristen Berry	JordanBryan.com	on-time
16	6315188977	Carmen Adams	620 Brooks Mountain Apt. 742	Lake Andreaberg	NE	98190	939-713-9499	Kenneth Evans	carmenadams.com	on-time
17	7606421267	Rebecca Contreras	8200 Jessica Extensions Apt. 167	Jessica	SD	47582	959-395-7734	Chad Evans	RebeccaContreras.com	on-time
18	8061529499	Robert Hubbard	26075 Chang Trail Suite 743	Lake Monica	MT	48272	855-965-4915	Kara Acosta	Roberthubbard.com	on-time
19	8065159166	Daniel Larson	046 Laura Fields Apt. 982	Markhaven	MA	74953	103-307-8454	Kristina Martinez	daniellarson.com	Defaulted
20	8192075871	Carrie Ramirez	412 Charles Gateway Suite	Brandi	WV	56145	902-753-1265	William Brown	CarrieRamirez.com	on-time
21	8388174425	Amber Young	038 Franklin Junction	Karenburgh	AR	70100	309-591-2183	Connie Stafford	Amberyoun.com	on-time
22	8951179006	Erin Davis	640 Schaefer Souare	Johnfort	KS	94029	580-386-5372	Joseph Larson	ErinDavis.com	on-time

Query executed successfully.

acadsq17.asurite.ad.asu.edu | ASUAD\mbrewer7 (63) | SP20_CIS365_19668_TEAMS | 00:00:00 | 30 rows

SQLQuery1.sql - a...UAD\mbrewer7 (63)* X

```
--Select from TASKS table
SELECT *
FROM TASKS
```

100 %

Results Messages

	TaskID	TaskType	TaskDescription	RootCause
1	1039259302	HVAC	Repair Damaged Air Filters	Wear and Tear
2	1239259302	C06	Restroom Pm. Route	NULL
3	1611618056	Pool - Weekly	Swimming Pool	NULL
4	2371053656	Yearly Building Inspection	Building 102	NULL
5	2463146448	C04	Cafeteria Water Filters	NULL
6	2665931830	Fire Hose 1 Year Inspection	Fire Hose Cabinet, Bldg 102	NULL
7	2749370837	Repair	Front Parking Lot - 50 spaces	NULL
8	2764771170	Repair	Room 3	Fire damage
9	2813858535	C07	Cafeteria Ice Machine	NULL
10	2987970115	Yearly Building Inspection	Building Number 101	NULL
11	4117998742	Repair	Front Gate	car crashed into it
12	4336837906	Fire Hose 1 Year Inspection	Fire Hose Cabinet, Bldg 102	NULL
13	4423222485	Repair	Door lock jammed	Misuse
14	4424071352	Yearly Building Inspection	Building Number 103	NULL
15	4599572123	Repair	Cafeteria Refrig & Freezer System	Wear/Normal Use
16	4809248271	Repair	Lawn Tractor	Wear/normal use
17	4927352458	C04	Cafeteria Back Door	NULL
18	5475139225	C08	Emergency Lighting Sys., B/100	NULL
19	5826530451	Weekly Room Inspection	Room 101	NULL
20	5993797232	C06	Elec Traffic Gate - Main Out	NULL
21	6374058382	Weekly Lobby Inspection	Lobby in Building 101	NULL
22	6694565143	C08	Camer 400 Ton Chiller, Bldg 101	NULL
23	6783460537	C07	Cafeteria Refrigerator	NULL

acadsq17.asurite.ad.asu.edu | ASUAD\mbrewer7 (63) | SP20_CIS365_19668_TEAM5 | 00:00:00 | 31 rows

SQLQuery1.sql - a...UAD\mbrewer7 (63) * + X

```
--Select from TECHNICIANS table
SELECT *
FROM TECHNICIANS
```

100 %

Results Messages

	EmpID	TradeSpecialty	Certificate#	DateOfRenewal	DateOfOrigCertificate	AvailabilityStatus
1	0123456789	HVAC	77821236	2021-10-10	2019-10-10	Unavailable
2	0133456789	Pools	75288777	2022-01-23	2000-05-15	Available
3	0233456789	Landscaping	97767240	2020-11-28	2008-11-28	Available
4	0333456789	Carpentry	38336214	2020-05-28	2015-05-28	Available
5	0433456789	Landscaping	49066751	2020-05-16	2006-05-16	Available
6	0485646926	HVAC	36392361	2020-12-16	2012-12-16	Available
7	0490721952	HVAC	76484817	2020-10-17	2012-10-17	Available
8	0533456789	Carpentry	79453766	2020-08-16	2014-01-06	Available
9	1212477095	HVAC	34378659	2021-11-19	2013-11-19	Available
10	1231737523	Carpentry	70459729	2020-07-12	2012-07-12	Available
11	1606392601	Pools	28466386	2020-11-13	2004-11-13	Available
12	1712589358	Landscaping	81186012	2020-11-28	2000-11-28	Available
13	2051366864	HVAC	5858956	2020-10-03	2010-10-03	Available
14	2612804505	HVAC	97344447	2020-12-16	2016-12-16	Available
15	2911836367	Pools	33784841	2020-12-01	2002-12-01	Available
16	3459851464	Landscaping	68976384	2020-11-19	2012-11-19	Available
17	3781003956	Carpentry	16997861	2020-08-07	2010-08-07	Available
18	4118122171	Landscaping	45914461	2021-05-15	2011-05-15	Available
19	4270591322	Landscaping	74620150	2022-01-13	2020-01-13	Available
20	4359307467	Landscaping	58507947	2020-06-29	2008-06-29	Available
21	4808236737	Welding	73877097	2020-06-08	2014-06-08	Available
22	5368939476	Landscaping	16267565	2021-02-12	2007-02-12	Available
23	5425516460	Carpentry	8302500	2020-10-02	2000-10-02	Available

Q | acadsq17.asurite.ad.asu.edu | ASUAD\mbrewer7 (63) | SP20_CIS365_19668_TEAM5 | 00:00:00 | 29 rows

SQLQuery1.sql - a...UAD\mbrewer7 (63) * X

```
--Select from USERS table
SELECT *
FROM USERS
```

100 %

Results Messages

	UserID	EmplID	UserPassword	DateSetUpStamp	DateRetired
1	0123456789	1212477095	Password	2019-03-11	2020-03-11
2	0341388010	5425516460	lr4rbBEj+0_A7WL	2010-09-12	NULL
3	0765940686	4359307467	2 E8FRDFIQDk-o0`^S@K4	2012-10-29	NULL
4	1426569593	3459851464	^o6*YXRcO\$QxQxH+=30y0	2020-02-12	NULL
5	1441032341	9475027393	!6?yPgiT!	2014-03-25	NULL
6	1482310915	3781003956	vk2t78+V2%JDKW&7K15PL	2011-10-19	2020-02-11
7	1640700292	NULL	zibd63mBN#an1oC3	2015-01-07	NULL
8	1845314698	4118122171	CGsmsx+9zTsEv@OzR4Ao	2009-03-09	NULL
9	2777640988	NULL	pV+84jBDMUGr^Zg*?WKn	2020-01-01	NULL
10	3007276158	1231737523	LEaTGjea+xYJF8g1Obbi	2018-12-02	NULL
11	3056923969	4808236737	XB2Ba8BvxLf_9S8Q	2019-02-01	2020-03-09
12	3269522700	1712589358	Zgq4x*U39e	2015-02-26	NULL
13	3715110761	8149842015	@6Qin!50SSj	2014-08-23	NULL
14	4418580110	5368939476	*&NTvyTF0c^s	2014-03-21	NULL
15	4513656000	NULL	VvyF6?3a?%o OPag3yVG	2007-09-19	NULL
16	4558228602	NULL	t7l0x=ka#G&pY78%zncU	2020-03-04	NULL
17	4753204707	4270591322	P7_zfKJ&ySCnE4i8HE*a	2006-03-02	NULL
18	4793796678	2612804505	7AkTXQU@b_Jg	2017-06-09	NULL
19	4813848184	2051366864	&N5ME64rh!42V3!A	2019-01-16	2020-03-10
20	4995502914	8830282968	^4v4Uis5kj^o	2019-04-03	NULL
21	5238377034	0490721952	1xmxa*?V7pB	2019-03-21	NULL
22	6349718771	2911836367	fXP_OjH*ltu	2013-04-19	NULL
23	6405682170	0485646926	aYI I @IvnRR1=2&u3Plv	2013-02-01	2020-03-15

Q | acadsql17.asurite.ad.asu.edu | ASUAD\mbrewer7 (63) | SP20_CIS365_19668_TEAM5 | 00:00:00 | 30 rows

--Select from WORK_ORDERS table

```
SELECT *
FROM WORK_ORDERS
```

100 %

	WorkOrderID	ResidentID	PropertyID	TaskID	TechID	CreatorID	DateCreated	DesiredWorkDate	StartDate	EndDate	LastMaintDate	Emergency	TotalHours	WorkOrderNotes	WorkOrderStatus
1	0245421460	3673914534	4974134203	7188818037	0533456789	4723257262	2019-11-01	2019-11-02	2019-12-03	2019-12-05	2019-12-06	0	19.00	Pump replacement	completed
2	1329486777	5983055224	1778307452	9599810135	0133456789	7461707115	2019-03-18	2019-04-18	2019-04-18	2019-04-18	2019-04-18	0	7.23	Bldg. 102 Inspection	completed
3	1642972264	8270971640	2556275703	6694565143	8830282968	8606515777	2018-11-14	2018-12-14	2018-12-15	2018-12-16	2018-12-16	0	17.32	Patch ceiling	completed
4	1665308421	4557820611	1475863308	7684390670	4808236737	1333527072	2008-07-30	2008-08-30	2008-07-30	2008-07-30	2008-07-30	0	3.00	Lawn Tractor	completed
5	1858869730	2263909583	7175608493	1239259302	0333456789	3663027200	2020-07-14	2020-08-14	2020-08-22	2020-08-22	2020-08-22	0	5.23	Swimming pool	completed
6	2168612953	6393256990	9534546401	4423222485	1212477095	4714353184	2007-07-06	2007-08-06	2007-08-06	2007-08-06	2007-08-06	0	1.25	Broken printer	completed
7	2393881879	9003459567	6616852224	4117998742	0433456789	1430236724	2020-03-03	2020-04-03	2020-04-06	2020-04-07	2020-04-07	0	14.15	Restroom Room 8	Delayed
8	3076766960	9599235796	9376688927	6791566934	9475027393	6807186162	2017-07-13	2017-08-13	2017-08-14	2017-08-14	2017-08-14	0	4.17	Front Door repair	completed
9	3574393747	8484639753	2908997799	5826530451	7944061124	3328752545	2018-02-28	2018-03-28	2018-03-28	2018-03-28	2018-03-28	0	4.42	Lawn maintenance	completed
10	4329033923	3786184210	5395050780	5939797232	2612804505	1184867627	2016-03-08	2016-04-08	2016-04-08	2016-04-17	2016-04-17	0	117.05	Back room renovation	completed
11	4727804957	7642795175	3914768329	2764771170	0485646926	5051725583	2018-04-23	2018-05-23	2018-05-23	2018-05-23	2018-05-23	0	2.00	Speakers repair	completed
12	4832636771	7680637430	2499080739	7309637974	4359307467	7353470567	2017-04-17	2017-05-17	2017-05-17	2017-05-17	2017-05-17	1	7.00	Front Gate	Completed
13	5112788506	5160253592	2688090757	2371053656	5425516460	0042412788	2014-05-29	2014-06-29	2014-07-04	2014-07-04	2014-07-04	0	5.25	Cafeteria Oven Inspection	completed
14	5120912503	7883078832	1401958674	2813858535	6711164593	8431250187	2018-01-14	2018-02-14	2018-02-14	2018-02-14	2018-02-14	0	1.00	Door jammed	completed
15	5516291197	8227372978	3199428180	2749370837	0233456789	4822341807	2015-01-18	2015-02-18	2015-02-20	2015-02-21	2015-02-21	0	12.44	Room 8 Chairs	completed
16	5605315456	3780896439	4399332669	2987970115	8190360250	8161302037	2001-07-27	2001-08-27	2001-08-28	2001-08-28	2001-08-28	0	8.00	Water filter replacement - cafeteria	completed
17	6434495808	1766091032	6298846818	2665931830	3459851464	4174185851	2017-03-27	2017-04-27	2017-04-28	2017-04-28	2017-04-28	0	2.00	Room 4 Button Repair	completed
18	7011338685	7253005310	4747992070	4927352458	0490721952	7312534106	2019-06-17	2019-07-17	2019-07-19	2019-07-19	2019-07-19	0	8.23	air conditioner repair	completed
19	7174747431	5252053437	8343867623	4599572123	8563223391	0736351400	2020-11-01	2020-12-01	2020-12-03	2020-12-06	2020-12-06	0	38.25	Bldg. 102 improvements	completed
20	7491160348	2640852291	5734709966	7562427718	1231737523	3455702072	2020-01-02	2020-02-02	2020-02-05	2020-02-05	2020-02-05	0	6.00	Front gate maintenance	completed
21	7799342414	8715309895	7837624090	7897148494	0123456789	7834117807	2000-08-29	2000-09-29	2000-09-29	2000-09-29	2000-09-29	1	4.00	Heater caught fire	completed
22	8024978966	4923659143	5729827879	5475139225	4270591322	8576431483	2019-06-14	2019-07-14	2019-07-16	2019-07-17	2019-07-17	0	14.00	Bldg. 201 repaint	completed
23	8437549859	6393256990	9534546401	1039259302	0123456789	3663027200	2020-04-28	2020-04-28	2020-05-05	NIIII	NIIII	0	23.38	Damaged Filter	Completed

Query executed successfully.

acadsql17.asurite.ad.asu.edu... | ASUAD\mbrewer7 (63) | SP20_CIS365_19668_TEAM5 | 00:00:00 | 30 rows

Screen Captures of Queries of Client Requirements

Client Requirements

1. A listing of technicians and their total hours logged for maintenance for each property.

M10Queries.sql - a...SUAD\vsHourie (64) ➔ IC10Visualization.s...SUAD\vsHourie (56)

```

1  /* 1. A listing of technicians and their total hours logged for maintenance for each property. */
2  SELECT t.EmpID, e.EmpFName, e.empLName, p.PropertyID, p.PropertyName,
3         SUM(wo.TotalHours) AS "Total Hours Per Property"
4   FROM TECHNICIANS t JOIN EMPLOYEES e
5     ON t.EmpID = e.EmpID
6   JOIN WORK_ORDERS wo
7     ON wo.TechID = t.EmpID
8   JOIN PROPERTY p
9     ON wo.PropertyID = p.PropertyID
10    GROUP BY t.EmpID, e.EmpFName, e.empLName, p.PropertyID, p.PropertyName;
11

```

110 %

	EmpID	EmpFName	empLName	PropertyID	PropertyName	Total Hours Per Property
1	6711164593	Jim	Moran	1401958674	Conchas	1.00
2	4808236737	Joseph	Smith	1475863308	Sol Rojo	3.00
3	0133456789	Mo	Bamba	1778307452	La Paz	7.23
4	4359307467	Jusuf	Nurkic	2499080739	Las Nubes	7.00
5	8830282968	Omar	Epps	2556275703	La Alma	17.32
6	4118122171	Chad	Wilkerson	2637367579	La Manta	6.00
7	5425516460	Oscar	Mayer	2688090757	Bogota	5.25
8	7944061124	Xavier	Michaels	2908997799	Guadalajara	4.42
9	1606392601	Brad	Pitt	3062548195	El Cielo	4.00
10	0233456789	LeBron	James	3199428180	Lima	12.44
11	5368939476	Greg	McKinney	3708287043	El Lapis	8.21
12	0485646926	Django	Unchained	3914768329	Aguas Frescas	2.00

Query executed successfully. | acadsq17.asurite.ad.asu.edu | ASUAD\vsHourie (64) | SP20_CIS365_19668_TEAM5 | 00:00:00 | 30 rows

2. A list of work orders by date completed.

M10Queries.sql - a...SUAD\vshourie (64)* | IC10Visualization.s...SUAD\vshourie (56)

```

11
12 /* 2. A list of work orders by date completed. */
13 SELECT *
14   FROM WORK_ORDERS wo
15 ORDER BY EndDate;
16

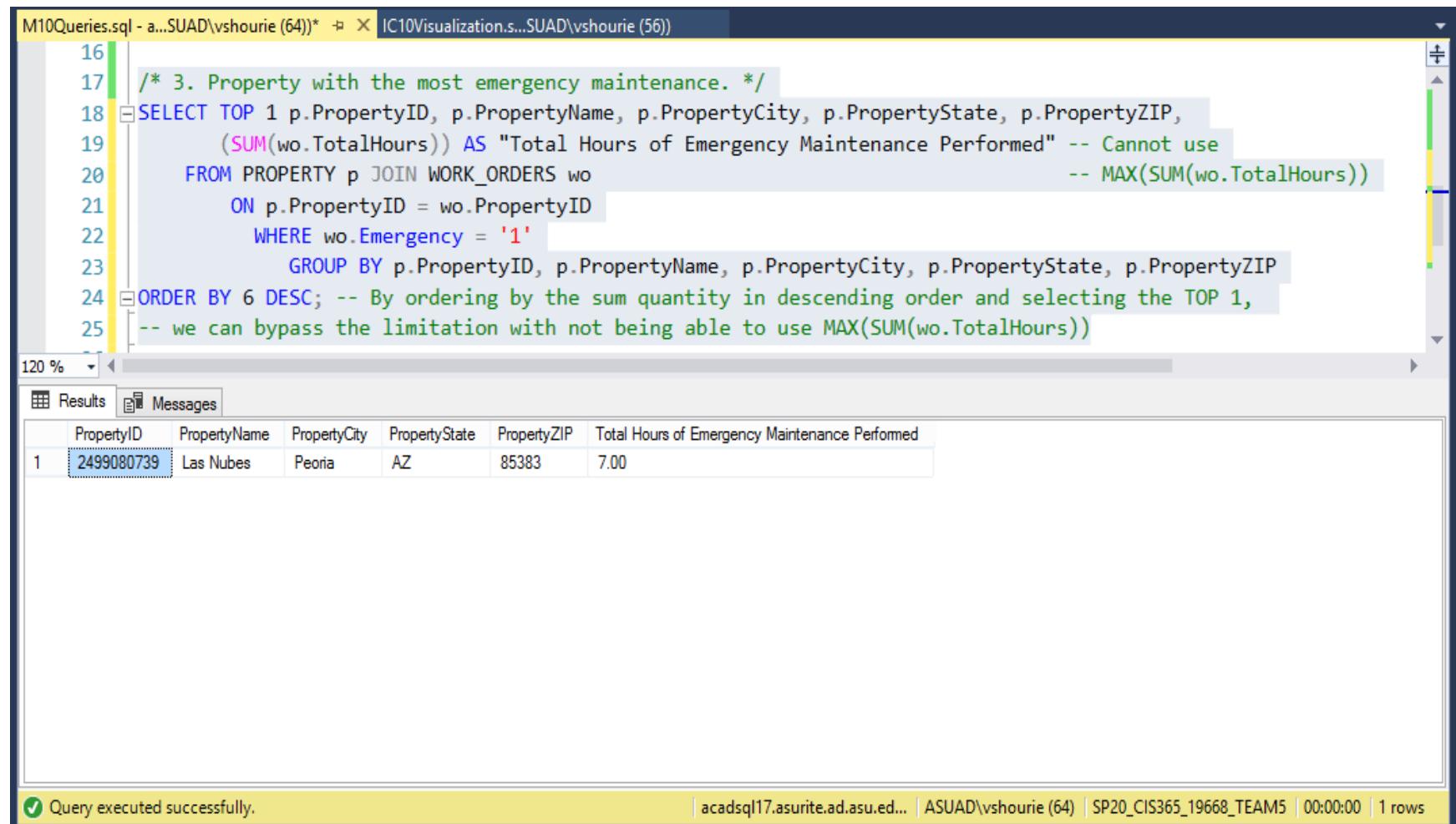
```

130 %

	WorkOrderID	ResidentID	PropertyID	TaskID	TechID	CreatorID	DateCreated	DesiredWorkDate	StartDate	EndDate	LastMaintDate	Emergency	TotalHours
1	8437549859	6393256990	9534546401	1039259302	0123456789	3663027200	2020-04-28	2020-04-28	2020-05-05	NULL	NULL	0	23.38
2	7799342414	8715309895	7837624090	7897148494	0123456789	7834117807	2000-08-29	2000-09-29	2000-09-29	2000-09-29	2000-09-29	1	4.00
3	5605315456	3780896439	4399332669	2987970115	8190360250	8161302037	2001-07-27	2001-08-27	2001-08-27	2001-08-28	2001-08-28	0	8.00
4	9375544818	6080760445	6318873767	2463146448	2051366864	6050131166	2002-06-27	2002-07-27	2002-07-27	2002-07-27	2002-07-27	0	2.00
5	2168612953	6393256990	9534546401	4423222485	1212477095	4714353184	2007-07-06	2007-08-06	2007-08-06	2007-08-06	2007-08-06	0	1.25
6	1665308421	4557820611	1475863308	7684390670	4808236737	1333527072	2008-07-30	2008-08-30	2008-07-30	2008-07-30	2008-07-30	0	3.00
7	9763841626	8426508901	3708287043	6783460537	5368939476	5873457506	2010-04-05	2010-05-05	2010-05-06	2010-05-06	2010-05-06	0	8.21
8	9165893815	7672339205	3062548195	4809248271	1606392601	4058468001	2013-02-18	2013-03-18	2013-03-18	2013-03-18	2013-03-18	0	4.00
9	9597508839	9476269763	2637367579	4336837906	4118122171	6571006678	2014-03-17	2014-04-17	2014-04-17	2014-04-17	2014-04-17	0	6.00
10	5112788506	5160253592	2688090757	2371053656	5425516460	0042412788	2014-05-29	2014-06-29	2014-07-04	2014-07-04	2014-07-04	0	5.25
11	5516291197	8227372978	3199428180	2749370837	0233456789	4822341807	2015-01-18	2015-02-18	2015-02-20	2015-02-21	2015-02-21	0	12.44
12	4329033923	3786184210	5395507870	5993797232	2612804505	1184867627	2016-03-08	2016-04-08	2016-04-08	2016-04-17	2016-04-17	0	117.05
13	9101402602	1594262954	5199704710	4424071352	3781003956	0344221044	2016-10-26	2016-11-26	2016-11-26	2016-11-26	2016-11-26	0	17.00
14	9900153051	5210153759	8258600723	8444985818	1712589358	6736040412	2016-11-19	2016-12-19	2016-12-20	2016-12-20	2016-12-20	0	6.00
15	6434495808	1766091032	6298846818	2665931830	3459851464	4174185851	2017-03-27	2017-04-27	2017-04-28	2017-04-28	2017-04-28	0	2.00

Query executed successfully. | acadsql17.asurite.ad.asu.edu | ASUAD\vshourie (64) | SP20_CIS365_19668_TEAM5 | 00:00:00 | 30 rows

3. Property with the most emergency maintenance.



The screenshot shows a SQL query being run in SQL Server Management Studio. The query retrieves information about a property with the most emergency maintenance. The results grid displays one row with the following data:

	PropertyID	PropertyName	PropertyCity	PropertyState	PropertyZIP	Total Hours of Emergency Maintenance Performed
1	2499080739	Las Nubes	Peoria	AZ	85383	7.00

The status bar at the bottom indicates "Query executed successfully." and shows the connection details: acadsq17.asurite.ad.asu.edu | ASUAD\vsHourie (64) | SP20_CIS365_19668_TEAM5 | 00:00:00 | 1 rows.

```
16
17 /* 3. Property with the most emergency maintenance. */
18 SELECT TOP 1 p.PropertyID, p.PropertyName, p.PropertyCity, p.PropertyState, p.PropertyZIP,
19     (SUM(wo.TotalHours)) AS "Total Hours of Emergency Maintenance Performed" -- Cannot use
20     -- MAX(SUM(wo.TotalHours))
21     FROM PROPERTY p JOIN WORK_ORDERS wo
22     ON p.PropertyID = wo.PropertyID
23     WHERE wo.Emergency = '1'
24     GROUP BY p.PropertyID, p.PropertyName, p.PropertyCity, p.PropertyState, p.PropertyZIP
25 ORDER BY 6 DESC; -- By ordering by the sum quantity in descending order and selecting the TOP 1,
-- we can bypass the limitation with not being able to use MAX(SUM(wo.TotalHours))
```

4. The technicians who must renew their trade certificates in the next month.

The screenshot shows a SQL query being run in SQL Server Management Studio. The query retrieves information from the TECHNICIANS and EMPLOYEES tables to find technicians whose trade certificate renewal date is within the next month. The results are displayed in a table with columns: EmpID, EmpFName, EmpLName, and Trade Certificate Renewal Date. Six rows of data are returned, corresponding to the technicians listed in the table below.

```
/* 4. The technicians who must renew their trade certificates in the next month. */
SELECT t.EmpID, e.EmpFName, e.EmpLName,
       t.DateOfRenewal AS "Trade Certificate Renewal Date"
  FROM TECHNICIANS t JOIN EMPLOYEES e
    ON t.EmpID = e.EmpID
   WHERE DATEDIFF(MONTH, GETDATE(), DateOfRenewal) <= 1;
```

	EmpID	EmpFName	EmpLName	Trade Certificate Renewal Date
1	0333456789	Damian	Lillard	2020-05-28
2	0433456789	Bradley	Beal	2020-05-16
3	6711164593	Jim	Moran	2020-05-09
4	7944061124	Xavier	Michaels	2020-04-04
5	8563223391	Bill	Clinton	2012-07-28
6	8830282968	Omar	Epps	2020-05-21

Query executed successfully. | acadsql17.asurite.ad.asu.edu | ASUAD\vsHourie (64) | SP20_CIS365_19668_TEAM5 | 00:00:00 | 6 rows

5. Which unit required the most maintenance in the past year?

The screenshot shows a SQL query being run in SSMS. The query is designed to find the unit that required the most maintenance in the past year. It joins three tables: PROPERTY, WORK_ORDERS, and RESIDENTS. The results are grouped by ResidentID, ResApt, PropertyID,PropertyName, PropertyCity, PropertyState, and PropertyZIP. The query uses a subquery to calculate the total hours of maintenance performed and orders the results by this value in descending order, selecting the top 1 record.

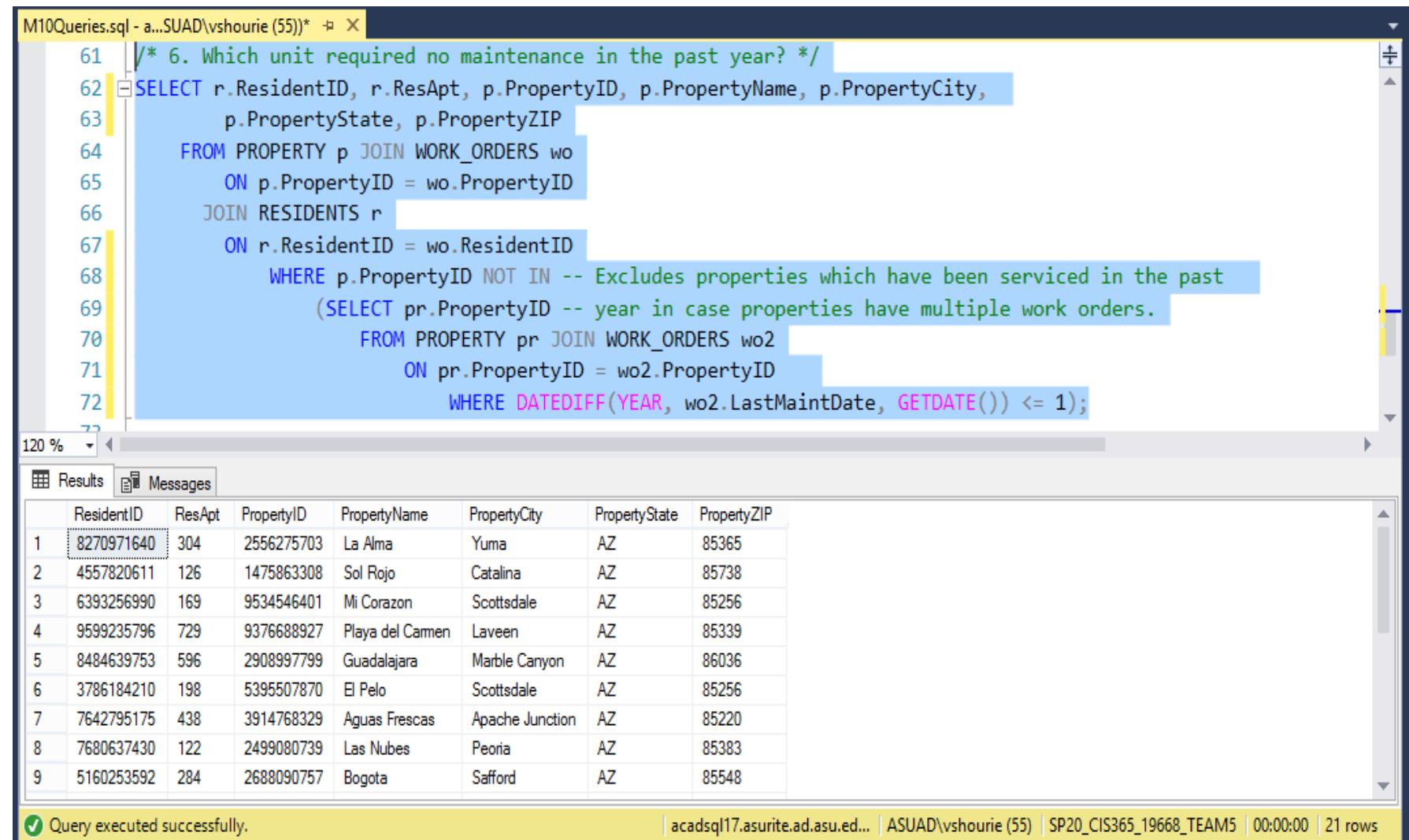
```
36 /* 5. Which unit required the most maintenance in the past year? */
37 SELECT TOP 1 r.ResidentID, r.ResApt,
38         p.PropertyID, p.PropertyName, p.PropertyCity, p.PropertyState, p.PropertyZIP,
39         (SUM(wo.TotalHours)) AS "Total Hours of Maintenance Performed" -- Can't use MAX(SUM(wo.TotalHours))
40     FROM PROPERTY p JOIN WORK_ORDERS wo
41       ON p.PropertyID = wo.PropertyID
42     JOIN RESIDENTS r
43       ON wo.ResidentID = r.ResidentID
44       WHERE DATEDIFF(YEAR, wo.LastMaintDate, GETDATE()) <= 1
45       GROUP BY r.ResidentID, r.ResApt, p.PropertyID, p.PropertyName,
46               p.PropertyCity, p.PropertyState, p.PropertyZIP
47 ORDER BY 8 DESC; -- By ordering the sum quantity in descending order and selecting the TOP 1,
48 -- we can bypass the limitation with not being able to use MAX(SUM(wo.TotalHours))
49
```

Results

	ResidentID	ResApt	PropertyID	PropertyName	PropertyCity	PropertyState	PropertyZIP	Total Hours of Maintenance Performed
1	5252053437	628	8343867623	Aroz Con Leche	Glendale	AZ	85312	38.25

Query executed successfully. | acadsql17.asurite.ad.asu.edu | ASUAD\vshtourie (61) | SP20_CIS365_19668_TEAM5 | 00:00:00 | 1 rows

6. Which unit required no maintenance in the past year?



M10Queries.sql - a...SUAD\vsHourie (55)* X

```
61 /* 6. Which unit required no maintenance in the past year? */
62 SELECT r.ResidentID, r.ResApt, p.PropertyID, p.PropertyName, p.PropertyCity,
63       p.PropertyState, p.PropertyZIP
64   FROM PROPERTY p JOIN WORK_ORDERS wo
65     ON p.PropertyID = wo.PropertyID
66   JOIN RESIDENTS r
67     ON r.ResidentID = wo.ResidentID
68   WHERE p.PropertyID NOT IN -- Excludes properties which have been serviced in the past
69        (SELECT pr.PropertyID -- year in case properties have multiple work orders.
70         FROM PROPERTY pr JOIN WORK_ORDERS wo2
71           ON pr.PropertyID = wo2.PropertyID
72           WHERE DATEDIFF(YEAR, wo2.LastMaintDate, GETDATE()) <= 1);
```

Results Messages

	ResidentID	ResApt	PropertyID	PropertyName	PropertyCity	PropertyState	PropertyZIP
1	8270971640	304	2556275703	La Alma	Yuma	AZ	85365
2	4557820611	126	1475863308	Sol Rojo	Catalina	AZ	85738
3	6393256990	169	9534546401	Mi Corazon	Scottsdale	AZ	85256
4	9599235796	729	9376688927	Playa del Carmen	Laveen	AZ	85339
5	8484639753	596	2908997799	Guadalajara	Marble Canyon	AZ	86036
6	3786184210	198	5395507870	El Pelo	Scottsdale	AZ	85256
7	7642795175	438	3914768329	Aguas Frescas	Apache Junction	AZ	85220
8	7680637430	122	2499080739	Las Nubes	Peoria	AZ	85383
9	5160253592	284	2688090757	Bogota	Safford	AZ	85548

Query executed successfully. | acadsql17.asurite.ad.asu.edu | ASUAD\vsHourie (55) | SP20_CIS365_19668_TEAM5 | 00:00:00 | 21 rows

7. A listing of all work orders by status.

SQLQuery3.sql - a...UAD\mbrewer7 (62)* X SQLQuery2.sql - a...UAD\mbrewer7 (57)*

```
/* 7. A listing of all work orders by status. */

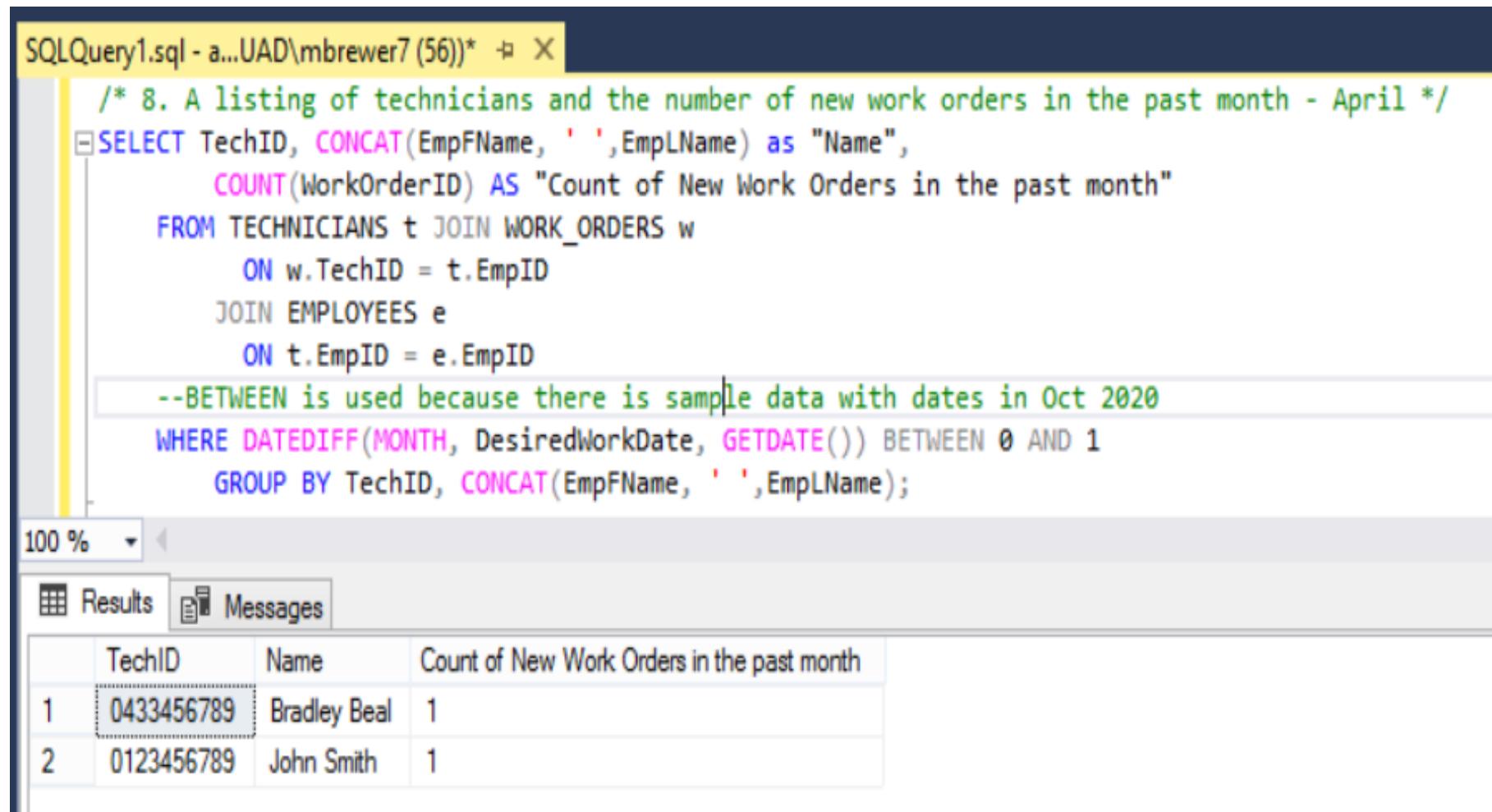
SELECT *
FROM WORK_ORDERS
ORDER BY WorkOrderStatus;
```

100 % < >

	WorkOrderID	ResidentID	PropertyID	TaskID	TechID	CreatorID	DateCreated	DesiredWorkDate	StartDate	EndDate	LastMaintDate	Emergency	TotalHours	WorkOrderNotes	WorkOrderStatus
1	3076766960	9599235796	9376688927	6791566934	9475027393	6807186162	2017-07-13	2017-08-13	2017-08-14	2017-08-14	2017-08-14	0	4.17	Front Door repair	completed
2	3574393747	8484639753	2908997799	5826530451	7944061124	3328752545	2018-02-28	2018-03-28	2018-03-28	2018-03-28	2018-03-28	0	4.42	Lawn maintenance	completed
3	4329033923	3786184210	5395507870	5993797232	2612804505	1184867627	2016-03-08	2016-04-08	2016-04-08	2016-04-17	2016-04-17	0	117.05	Back room renovation	completed
4	4727804957	7642795175	3914768329	2764771170	0485646926	5051725583	2018-04-23	2018-05-23	2018-05-23	2018-05-23	2018-05-23	0	2.00	Speakers repair	completed
5	4832636771	7680637430	2499080739	7309637974	4359307467	7353470567	2017-04-17	2017-05-17	2017-05-17	2017-05-17	2017-05-17	1	7.00	Front Gate	Completed
6	5112788506	5160253592	2688090757	2371053656	5425516460	0042412788	2014-05-29	2014-06-29	2014-07-04	2014-07-04	2014-07-04	0	5.25	Cafeteria Oven Inspection	completed
7	5120912503	7883078832	1401958674	2813858535	6711164593	8431250187	2018-01-14	2018-02-14	2018-02-14	2018-02-14	2018-02-14	0	1.00	Door jammed	completed
8	5516291197	8227372978	3199428180	2749370837	0233456789	4822341807	2015-01-18	2015-02-18	2015-02-20	2015-02-21	2015-02-21	0	12.44	Room 8 Chairs	completed
9	5605315456	3780896439	4399332669	2987970115	8190360250	8161302037	2001-07-27	2001-08-27	2001-08-27	2001-08-28	2001-08-28	0	8.00	Water filter replacement - cafeteria	completed
10	6434495808	1766091032	6298846818	2665931830	3459851464	4174185851	2017-03-27	2017-04-27	2017-04-28	2017-04-28	2017-04-28	0	2.00	Room 4 Button Repair	completed
11	7011338685	7253005310	4747992070	4927352458	0490721952	7312534106	2019-06-17	2019-07-17	2019-07-19	2019-07-19	2019-07-19	0	8.23	air conditioner repair	completed
12	7174747431	5252053437	8343867623	4599572123	8563223391	0736351400	2020-11-01	2020-12-01	2020-12-03	2020-12-06	2020-12-06	0	38.25	Bldg. 102 improvements	completed
13	7491160348	2640852291	5734709966	7562427718	1231737523	3455702072	2020-01-02	2020-02-02	2020-02-05	2020-02-05	2020-02-05	0	6.00	Front gate maintenance	completed
14	7799342414	8715309895	7837624090	7897148494	0123456789	7834117807	2000-08-29	2000-09-29	2000-09-29	2000-09-29	2000-09-29	1	4.00	Heater caught fire	completed
15	8024978966	4923659143	5729827879	5475139225	4270591322	8576431483	2019-06-14	2019-07-14	2019-07-16	2019-07-17	2019-07-17	0	14.00	Bldg. 201 repaint	completed
16	8437549859	6393256990	9534546401	1039259302	0123456789	3663027200	2020-04-28	2020-04-28	2020-05-05	NULL	NULL	0	23.38	Damaged Filter	Completed
17	8893160795	3498751707	6259318173	6374058382	2911836367	2531566610	2019-12-04	2020-01-04	2020-01-05	2020-01-06	2020-01-06	0	5.00	general maintenance	completed
18	9101402602	1594262954	5199704710	4424071352	3781003956	0344221044	2016-10-26	2016-11-26	2016-11-26	2016-11-26	2016-11-26	0	17.00	Cafeteria back door repair	completed
19	9165893815	7672339205	3062548195	4809248271	1606392601	4058468001	2013-02-18	2013-03-18	2013-03-18	2013-03-18	2013-03-18	0	4.00	Front Maintenance	completed

Query executed successfully. | acadsql17.asurite.ad.asu.edu | ASUAD\mbrewer7 (62) | SP20_CIS365_19668_TEAM5 | 00:00:00 | 30 rows

8. A listing of technicians and the number of new work orders in the past month.



The screenshot shows a SQL query in the SQL Query Editor and its results in a grid.

```
SQLQuery1.sql - a...UAD\mbrewer7 (56)* X
/*
8. A listing of technicians and the number of new work orders in the past month - April */
SELECT TechID, CONCAT(EmpFName, ' ', EmpLName) as "Name",
       COUNT(WorkOrderID) AS "Count of New Work Orders in the past month"
  FROM TECHNICIANS t JOIN WORK_ORDERS w
    ON w.TechID = t.EmpID
   JOIN EMPLOYEES e
    ON t.EmpID = e.EmpID
--BETWEEN is used because there is sample data with dates in Oct 2020
 WHERE DATEDIFF(MONTH, DesiredWorkDate, GETDATE()) BETWEEN 0 AND 1
 GROUP BY TechID, CONCAT(EmpFName, ' ', EmpLName);
```

The Results tab displays the following data:

	TechID	Name	Count of New Work Orders in the past month
1	0433456789	Bradley Beal	1
2	0123456789	John Smith	1

9. Residents who have had maintenance work completed in the last 6 months.

The screenshot shows a SQL query editor window with two tabs: 'Milestone4.sql - ac...UAD\vshourie (146)*' and 'IC09.sql - acadsql1...UAD\vshourie (160)'. The code in the editor is:

```
29
30 /* Advanced Test #9 - Views (Taken from the "RESULTS" section of Milestone 2)
31 "Residents who have had maintenance work completed in the past 6 months." */
32 CREATE VIEW ResidentsRecentMaintenance AS
33     (SELECT R.ResidentID AS "Resident ID",
34      R.ResApt AS "Resident's Apartment #",
35      R.ResName AS "Resident's Name",
36      W.WorkOrderID AS "Work Order ID",
37      W.LastMaintDate AS "Date Last Maintenance Occurred"
38      FROM RESIDENTS R JOIN WORK_ORDERS W
39      ON R.ResidentID = W.ResidentID
40      WHERE DATEDIFF(MONTH,W.LastMaintDate,GETDATE()) <= 6);
41 SELECT *
42     FROM ResidentsRecentMaintenance;
```

The results grid below the code shows the output of the query:

	Resident ID	Resident's Apartment #	Resident's Name	Work Order ID	Date Last Maintenance Occurred
1	3673914534	410	Sophia Jackson	0245421460	2019-12-06
2	2263909583	316	Ruth Greene	1858869730	2020-08-22
3	9003459567	834	Zachary Marsh	2393881879	2020-04-07
4	5252053437	628	Brandon Pena	7174747431	2020-12-06
5	2640852291	766	Jennifer Smith	7491160348	2020-02-05
6	3498751707	286	Kristina Rangel	8893160795	2020-01-06

At the bottom of the window, the status bar shows: ✓ Query... | acadsql17.asurite.ad.asu.edu | ASUAD\vshourie (146) | SP20_CIS365_19668_TEAM5 | 00:00:00 | 6 rows

10. Number of work orders each employee created.

The screenshot shows a SQL Server Management Studio window with two tabs at the top: "SQLQuery3.sql - a...UAD\mbrewer7 (62)*" and "SQLQuery2.sql - a...UAD\mbrewer7 (57)*". The "SQLQuery2.sql" tab is active, displaying a SQL query. The query is as follows:

```
/* 10. Number of work orders each employee created. */
SELECT EmpID, CONCAT(EmpFName, ' ', EmpLName) as "Name",
       COUNT(CreatorID) as "Number of Work Orders Each Employee Created"
  FROM WORK_ORDERS w JOIN EMPLOYEES e
    ON e.EmpID = w.CreatorID
 GROUP BY EmpID, CONCAT(EmpFName, ' ', EmpLName)
ORDER BY 3 desc;
```

The results grid below the query shows the following data:

	EmpID	Name	Number of Work Orders Each Employee Created
1	3663027200	Natalia Clark	2
2	7461707115	Peyton Martinez	1
3	1430236724	Raelynn Rodriguez	1
4	6736040412	Sadie Martin	1
5	5873457506	Samantha Haines	1
6	7312534106	Skylar Thomas	1
7	4714353184	Victoria Justice	1
8	2531566610	Violet Taylor	1
9	0736351400	Zoe Miller	1
10	6050131166	Aamir Khan	1
11	6571006678	Adam Davis	1
12	0344221044	Aria Johnson	1
13	7834117807	Ariana Grande	1
14	0042412788	Arianna Garcia	1

At the bottom of the results grid, a status bar indicates: "Query executed successfully." and "acadsq17.asurite.ad.asu.edu | ASUAD\mbrewer7 (62) | SP20_CIS365_19668_TEAM5 | 00:00:00 | 29 rows".

11. Accident report on all employees.

SQLQuery3.sql - a...UAD\mbrewer7 (62)* ⇐ X SQLQuery2.sql - a...UAD\mbrewer7 (57)*

```
/* 11. Accident report on all employees. */
SELECT CONCAT(EmpFName, ' ', EmpLName) as "Name",
       a.AccidentType, a.AccID, a.OccurrenceDate, a.ResumeDate, a.Status
  FROM ACCIDENTS a JOIN EMPLOYEES e
    ON e.EmpID = a.EmpID
```

100 %

Results Messages

	Name	AccidentType	AccID	OccurrenceDate	ResumeDate	Status
1	Xavier Michaels	Fell down stairs	1362776825	2011-11-28	2011-12-02	Minor
2	Chad Wilkerson	Fell down stairs	1647133129	2012-06-18	2012-11-24	Major
3	Raj Patel	Swallowed ink	2245027268	2017-11-06	2017-11-10	Minor
4	Damian Lillard	Attacked by dog	2292385158	2018-02-04	2018-02-24	Major
5	Dwayne Wade	Car crash	2305684419	2012-11-07	2012-03-22	Major
6	Jones MF	Fall from ladder	2343636969	2018-11-07	2019-01-07	Major
7	Alec Baldwin	Fell down ladder	2596110249	2016-07-07	2016-07-13	Minor
8	Greg McKinney	Hand crushed by door	2811356748	2018-03-23	2018-04-01	Minor
9	John Mayer	Hit by delivery truck	2991460024	2018-02-06	2018-11-02	Major
10	Mark Ruffalo	Fell from ladder	3510085322	2015-04-06	2015-07-28	Major
11	LeBron James	Car crash	3538442355	2012-06-20	2012-06-23	Minor
12	Jimmy Butler	Fell from vehicle	3658145182	2014-09-16	2014-09-19	Minor
13	Quentin Tarantino	Car crash	4210463330	2011-11-17	2012-05-25	Emergency
14	Oscar Mayer	Car crash	4343294424	2013-03-28	2013-08-01	Major

Query executed successfully. | acadsq117.asurite.ad.asu.edu | ASUAD\mbrewer7 (62) | SP20_CIS365_19668_TEAM5 | 00:00:00 | 31 rows

12. Total number of accidents per month for the past year by accident status.

SQLQuery1.sql - a...UAD\mbrewer7 (97)* ✎ X

```
/*Advanced Query #8
Total number of accidents per month for the past year by accident status. */
create view MonthsWithAccidents as
    select DATENAME(month, OccurrenceDate) as "Months with Accidents",
           COUNT(DATENAME(month, OccurrenceDate)) as "Number of Accidents",
           Status
      from ACCIDENTS
     where OccurrenceDate > DATEADD(year,-1,GETDATE())
       group by DATENAME(month, OccurrenceDate), Status;

select *
  from MonthsWithAccidents
 order by Status;
```

100 %

Results Messages

	Months with Accidents	Number of Accidents	Status
1	December	1	Emergency
2	June	1	Minor
3	October	1	Minor

13. Listing of all properties and residents.

SQLQuery3.sql - a...UAD\mbrewer7 (62)* -> X SQLQuery2.sql - a...UAD\mbrewer7 (57)*

```
/* 13. Listing of all properties and residents.*/
SELECT r.ResName as Name, r.ResApt as 'Apt Num',
       p.PropertyAddress, p.PropertyCity, p.PropertyState, p.PropertyName, p.PropertyAccountNo
FROM RESIDENTS r JOIN WORK_ORDERS w
      ON w.ResidentID = r.ResidentID
     JOIN PROPERTY p
      ON p.PropertyID = w.PropertyID
```

100 %

Results Messages

	Name	Apt Num	PropertyAddress	PropertyCity	PropertyState	PropertyName	PropertyAccountNo
1	Sophia Jackson	410	19817 East Camina Plata	Queen Creek	AZ	El Paraiso	000000000000000001
2	Elizabeth Moore	684	8887 Anderson Avenue	Superior	AZ	La Paz	6560393224584714
3	Reginald Casey	304	7024 Chestnut Drive	Yuma	AZ	La Alma	0063621306855729
4	Lawrence Curtis	126	1 Snake Hill Ave.	Catalina	AZ	Sol Rojo	0889826087463648
5	Ruth Greene	316	76 Haven Lane	Phoenix	AZ	San Salvador	7111551568856522
6	Jamal Brown	169	62 Hickory Drive	Scottsdale	AZ	Mi Corazon	3754547547606820
7	Zachary Marsh	834	57 Rosemary Lane	Mesa	AZ	Santiago	1495262026222291
8	Christopher Graves	729	54 North Camiage Rd.	Laveen	AZ	Playa del Carmen	3117143816620670
9	Dr. William Zimmerman DDS	596	636 Clark Drive	Marble Canyon	AZ	Guadalajara	4383634275778438
10	Jennifer Gardner	198	172 Overlook Avenue	Scottsdale	AZ	El Pelo	2270604132460494
11	Jacqueline Smith	438	570 S. Summit Ave.	Apache Junction	AZ	Aguas Frescas	4270292894585138
12	Lisa Andrews	122	453 Middle St.	Peoria	AZ	Las Nubes	2630669620468203
13	Kenneth Thomas	284	460 Oak St.	Safford	AZ	Bogota	0097191912256572
14	Thomas Miller	305	7686 Pennington St.	Winkelman	AZ	Conchas	9813114865796814

✓ Query executed successfully. | acadsq17.asurite.ad.asu.edu | ASUAD\mbrewer7 (62) | SP20_CIS365_19668_TEAM5 | 00:00:00 | 30 rows

14. A listing of users and the number of days the account was active.

The screenshot shows a SQL query in the M10Queries.sql file. The query retrieves user IDs and calculates the number of days the account was active if retired or would be active if not retired. The results are displayed in a table with three columns: UserID, Number of Days Account was Active If Retired, and Number of Days Account Would Be Active If Not Retired. The results show various user IDs and their corresponding day counts.

```

73
74 /* 14. A listing of users and the number of days the account was active. */
75 SELECT u.UserID,
76      -- If the value below is not null, this means the users' credentials has been retired.
77      DATEDIFF(DAY, u.DateSetUpStamp, u.DateRetired) AS "Number of Days Account was Active If Retired",
78      -- If the value above is null, then the client may use this value for active users.
79      DATEDIFF(DAY, u.DateSetUpStamp, GETDATE()) AS "Number of Days Account Would Be Active If Not Retired"
80   FROM USERS u;
81

```

	User ID	Number of Days Account was Active If Retired	Number of Days Account Would Be Active If Not Retired
1	0123456789	366	417
2	0341388010	NULL	3519
3	0765940686	NULL	2741
4	1426569593	NULL	79
5	1441032341	NULL	2229
6	1482310915	3037	3117
7	1640700292	NULL	1941
8	1845314698	NULL	4071
9	2777640988	NULL	121
10	3007276158	NULL	516
11	3056923969	402	455
12	3269522700	NULL	1891
13	3715110761	NULL	2078
...

Query executed successfully. | acadsq17.asurite.ad.asu.edu | ASUAD\vshearie (65) | SP20_CIS365_19668_TEAM5 | 00:00:00 | 30 rows

15. Suppliers who have defaulted on a delivery.

The screenshot shows a SQL query in the SQLQuery3.sql file. The query retrieves supplier information where the DeliveryRating is set to 'Defaulted'. The results are displayed in a table with ten columns: SupplierID, SupplierName, SupplierAddress, SupplierCity, SupplierState, SupplierZip, SupplierPhone, SupplierContact, WebAddress, and DeliveryRating. Two suppliers are listed: Natasha Caldwell and Daniel Larson, both with a DeliveryRating of 'Defaulted'.

```

/* 15. Suppliers who have defaulted on a delivery. */
SELECT *
  FROM SUPPLIERS
 WHERE DeliveryRating = 'Defaulted'

```

	SupplierID	SupplierName	SupplierAddress	SupplierCity	SupplierState	SupplierZip	SupplierPhone	SupplierContact	WebAddress	DeliveryRating
1	3777820462	Natasha Caldwell	7028 McIntyre Ways Port	Amandachester	AR	27270	578-461-9379	Eric Brown	natahacaldwell.com	Defaulted
2	8065159166	Daniel Larson	046 Laura Fields Apt. 982	Markhaven	MA	74953	103-307-8454	Kristina Martinez	daniellarson.com	Defaulted

Screen Captures of Queries

Entity Integrity Tests:

```

23 /* Entity integrity test for EMPLOYEES */
24 -- Selects all 60 primary keys to show they are unique.
25 SELECT DISTINCT E.EmpID AS 'Employee ID'
26     FROM EMPLOYEES E
27 -- Proves all 60 primary keys do not have NULL values.
28 WHERE E.EmpID IS NOT NULL;

110 % ▾ ▾
Results Messages
Employee ID
1 0042412788
2 0123456789
3 0133456789
4 0233456789
5 0333456789
6 0344221044
7 0433456789
8 0485646926
9 0490721952

28 WHERE E.EmpID IS NOT NULL;
29
30 /* Entity integrity test for Accidents */
31 -- Selects all 30 primary keys to prove all 30 primary keys are unique/distinct.
32 SELECT DISTINCT A.AccID AS 'Accident ID',
33     A.AccidentAddress AS 'Accident Address',
34     A.EmpID AS 'ID of Employee Involved'
35     FROM ACCIDENTS A
36 -- Proves all 30 primary keys do not have NULL values.
37 WHERE A.AccID IS NOT NULL;
38

110 % ▾ ▾
Results Messages
Accident ID Accident Address ID of Employee Involved
1 1362776825 1413 S Lynx Dr. Tucson, AZ, 85713 7944061124
2 1647133129 288 West Mirrornway, Tempe, AZ, 85280 4118122171
3 2245027268 777 W Chandler Blvd. Chandler, AZ, 85225 9475027393
4 2292385158 50809 439th Ave. Wickenburg, AZ, 85390 0333456789
5 2305684419 507 E Queen Creek Dr Apache Junction, AZ, 85218 0533456789
6 2596110249 247 E Gold Dust Way San Tan Valley, AZ, 85143 0490721952
7 2811356748 302 N Colorado St. Casa Grande, AZ, 85222 5368939476
8 2991460024 728 East Cave Creek Road. Tucson. AZ. 85701 8190360250

```

```
-- /* Entity integrity for TECHNICIANS table */
39  -- Selects 30 distinct primary keys to prove all primary keys are unique.
40
41  SELECT DISTINCT T.EmpID AS 'Technician ID',
42      T.TradeSpecialty AS 'Trade Specialty'
43  FROM TECHNICIANS T
44  -- Proves all 30 primary keys do not have NULL values.
45  WHERE T.EmpID IS NOT NULL;
```

110 %

Results Messages

	Technician ID	Trade Specialty
1	0123456789	HVAC
2	0133456789	Pools
3	0233456789	Landscaping
4	0333456789	Carpentry
5	0433456789	Landscaping
6	0485646926	HVAC
7	0490721952	HVAC
8	0533456789	Carpentry
9	1212477095	HVAC

```
47  /* Entity integrity for OFFICE_STAFF table */
48  -- Selects all 30 distinct primary keys to prove all primary keys in the table are unique.
49  SELECT DISTINCT O.EmpID AS 'Office Staff ID',
50      O.HrsWorkedPerWeek AS 'Hours Worked Per Week',
51      O.HourlyRate AS 'Hourly Pay Rate'
52  FROM OFFICE_STAFF O
53  --Proves all 30 distinct primary keys do not have NULL values in them.
54  WHERE O.EmpID IS NOT NULL;
```

110 %

Results Messages

	Office Staff ID	Hours Worked Per Week	Hourly Pay Rate
1	0042412788	42.69	35.54
2	0344221044	35.11	21.42
3	0713445833	39.32	30.79
4	0736351400	26.20	20.98
5	1184867627	36.11	26.77
6	1333527072	44.90	35.58
7	1430236724	32.13	35.88
8	2531566610	49.95	15.73
9	3328752545	25.88	34.31

```

56 /* Entity integrity test for WORK_ORDERS table */
57 -- Selects all 30 distinct primary keys to prove all primary keys are unique.
58 SELECT DISTINCT W.WorkOrderID AS 'Work Order ID',
59                 W.DateCreated AS 'Date of Work Order Creation',
60                 W.DesiredWorkDate AS 'Desired Date to Start Work'
61 FROM WORK_ORDERS W
62 -- Proves all of the 30 primary keys do not have NULL values.
63 WHERE W.WorkOrderID IS NOT NULL;

```

	Work Order ID	Date of Work Order Creation	Desired Date to Start Work
1	0245421460	2019-11-01	2019-11-02
2	1329486777	2019-03-18	2019-04-18
3	1642972264	2018-11-14	2018-12-14
4	1665308421	2008-07-30	2008-08-30
5	1858869730	2020-07-14	2020-08-14
6	2168612953	2007-07-06	2007-08-06
7	2393881879	2020-03-03	2020-04-03
8	3076766960	2017-07-13	2017-08-13
9	3574393747	2018-02-28	2018-03-28


```

65 /* Entity integrity test for RESIDENTS table */
66 -- Selects all 30 distinct primary keys to prove all primary keys are unique.
67 SELECT DISTINCT R.ResidentID AS 'Resident ID',
68                 R.ResName AS 'Resident Name',
69                 R.ResApt AS 'Resident Apartment Number'
70 FROM RESIDENTS R
71 -- Ensures all 30 primary keys do not have null values in them.
72 WHERE R.ResidentID IS NOT NULL;

```

	Resident ID	Resident Name	Resident Apartment Number
1	1594262954	Marcus Mitchell	523
2	1766091032	Nathan Jones	206
3	2263909583	Ruth Greene	316
4	2640852291	Jennifer Smith	766
5	3308976270	Glenn Clarke	444
6	3498751707	Kristina Rangel	286
7	3673914534	Sophia Jackson	410
8	3780896439	Kiara Johnson	397
9	3786184210	Jennifer Gardner	198


```

74 /* Entity integrity test for TASKS. */
75 -- Selects all 30 distinct primary keys to prove their uniqueness.
76 SELECT DISTINCT T.TaskID AS 'Task ID',
77                 T.TaskType AS 'Task Type',
78                 T.TaskDescription AS 'Task Description'
79 FROM TASKS T
80 -- Proves all 30 primary keys do not have null values.
81 WHERE T.TaskID IS NOT NULL;

```

	Task ID	Task Type	Task Description
1	1239259302	C06	Restroom Pm. Route
2	1611618056	Pool - Weekly	Swimming Pool
3	2371053656	Yearly Building Inspection	Building 102
4	2463146448	C04	Cafeteria Water Filters
5	2665931830	Fire Hose 1 Year Inspection	Fire Hose Cabinet, Bldg 102
6	2749370837	Repair	Front Parking Lot - 50 spaces
7	2764771170	Repair	Room 3
8	2813858535	C07	Cafeteria Ice Machine
9	2987970115	Yearly Building Inspection	Building Number 101

SQLQuery2.sql - a...UAD\mbrewer7 (91)* ↗ X

```

/* Entity integrity test for PROPERTY table */
-- Selects all 30 distinct primary keys to prove all primary keys are unique.
SELECT DISTINCT P.PropertyID AS 'Property ID',
P.PropertyName AS 'Property Name',
P.PropertyPhone AS 'Property Phone Number'
FROM PROPERTY P
-- Ensures all 30 primary keys do not have null values in them.
WHERE P.PropertyID IS NOT NULL;

```

100 %

Results Messages

	Property ID	Property Name	Property Phone Number
1	1401958674	Conchas	383-228-9193
2	1475863308	Sol Rojo	814-570-4662
3	1778307452	La Paz	953-625-9896
4	2499080739	Las Nubes	267-345-6676
5	2556275703	La Alma	991-499-3619
6	2637367579	La Manta	974-621-1582

SQLQuery2.sql - a...UAD\mbrewer7 (91)* ↗ X

```

/* Entity integrity test for PARTS table */
-- Selects all 30 distinct primary keys to prove all primary keys are unique.
SELECT DISTINCT P.PartID AS 'Part ID',
P.PartCategory AS 'Category',
P.QuantityInStock AS 'Quantity on Hand'
FROM PARTS P
-- Ensures all 30 primary keys do not have null values in them.
WHERE P.PartID IS NOT NULL;

```

100 %

Results Messages

	Part ID	Category	Quantity on Hand
1	0375280087	Compressors	442
2	0547436820	HVAC	104
3	0818355604	HVAC	278
4	0866242420	HVAC	10
5	1204535835	Nuts/Bolts/Screws	611
6	1356860564	Lubricants	753
7	1665495535	Pumps	329

SQLQuery2.sql - a...UAD\mbrewer7 (91)* ↗ X

```

/* Entity integrity test for SUPPLIERS table */
-- Selects all 30 distinct primary keys to prove all primary keys are unique.
SELECT DISTINCT S.SupplierID AS 'Supplier ID',
S.SupplierName AS 'Supplier Name',
S.SupplierPhone AS 'Phone Number'
FROM SUPPLIERS S
-- Ensures all 30 primary keys do not have null values in them.
WHERE S.SupplierID IS NOT NULL;

```

100 %

Results Messages

	Supplier ID	Supplier Name	Phone Number
1	1037967536	David Cordova	415-563-7838
2	1381926231	Shannon Taylor	298-582-8651
3	1553882107	Richard Shelton	451-811-8398
4	2258230140	Thomas Phillips	965-522-8302
5	2494883889	Robert Wells	185-829-1563

SQLQuery2.sql - a...UAD\mbrewer7 (91)* ↳ X

```

/* Entity integrity test for PARTS_PURCHASED table */
-- Insert Scripts to test uniqueness
Insert into PARTS_PURCHASED values('8850646215', '1553882107');
Insert into PARTS_PURCHASED values('1204535835', '1553882107');
-- Selects all 60 distinct primary keys/foreign keys to prove that they are unique
SELECT DISTINCT PP.PartID AS 'Part ID',
    PP.SupplierID AS 'Supplier ID'
    FROM PARTS_PURCHASED PP
        -- Ensures all 60 primary keys do not have null values in them.
        WHERE PP.PartID IS NOT NULL
        and PP.SupplierID IS NOT NULL;

```

100 %

Messages

```

Msg 2627, Level 14, State 1, Line 21
Violation of PRIMARY KEY constraint 'PK__PARTS_PU__28816B594B3BD5E1'. Cannot insert duplicate key in object 'dbo.PARTS_PURCHASED'. The duplicate key value is (8850646215, 1553882107).
The statement has been terminated.
Msg 2627, Level 14, State 1, Line 22
Violation of PRIMARY KEY constraint 'PK__PARTS_PU__28816B594B3BD5E1'. Cannot insert duplicate key in object 'dbo.PARTS_PURCHASED'. The duplicate key value is (1204535835, 1553882107).
The statement has been terminated.

```

SQLQuery2.sql - a...UAD\mbrewer7 (91)* ↳ X

```

/* Entity integrity test for PARTS_PURCHASED table */
-- Insert Scripts to test uniqueness
Insert into PARTS_PURCHASED values('8850646215', '1553882107');
Insert into PARTS_PURCHASED values('1204535835', '1553882107');
-- Selects all 60 distinct primary keys/foreign keys to prove that they are unique
SELECT DISTINCT PP.PartID AS 'Part ID',
    PP.SupplierID AS 'Supplier ID'
    FROM PARTS_PURCHASED PP
        -- Ensures all 60 primary keys do not have null values in them.
        WHERE PP.PartID IS NOT NULL
        and PP.SupplierID IS NOT NULL;

```

100 %

Results

	Part ID	Supplier ID
1	0375280087	8061529499
2	0375280087	8388174425
3	0547436820	2801844619
4	0547436820	8192075871
5	0818355604	4085239879

Messages

SQLQuery2.sql - a...UAD\mbrewer7 (91)* ➔ X

```

/* Entity integrity test for PARTS_USED table */
-- Insert Scripts to test uniqueness
Insert into PARTS_USED values ('2393881879', '1204535835');
Insert into PARTS_USED values ('2393881879', '3048021228');
-- Selects all 60 distinct primary keys/foreign keys to prove that they are unique
SELECT DISTINCT PU.PartID AS 'Part ID',
    PU.WorkOrderID AS 'Work Order ID'
    FROM PARTS_USED PU
    -- Ensures all 60 primary keys do not have null values in them.
    WHERE PU.PartID IS NOT NULL
    and PU.WorkOrderID IS NOT NULL;

```

100 %

Messages

```

Msg 2627, Level 14, State 1, Line 33
Violation of PRIMARY KEY constraint 'PK__PARTS_US__B9B6A1A63EAB734D'. Cannot insert duplicate key in object 'dbo.PARTS_USED'. The duplicate key value is (2393881879, 1204535835).
The statement has been terminated.
Msg 2627, Level 14, State 1, Line 34
Violation of PRIMARY KEY constraint 'PK__PARTS_US__B9B6A1A63EAB734D'. Cannot insert duplicate key in object 'dbo.PARTS_USED'. The duplicate key value is (2393881879, 3048021228).
The statement has been terminated.

```

SQLQuery2.sql - a...UAD\mbrewer7 (91)* ➔ X

```

/* Entity integrity test for PARTS_USED table */
-- Insert Scripts to test uniqueness
Insert into PARTS_USED values ('2393881879', '1204535835');
Insert into PARTS_USED values ('2393881879', '3048021228');
-- Selects all 60 distinct primary keys/foreign keys to prove that they are unique
SELECT DISTINCT PU.PartID AS 'Part ID',
    PU.WorkOrderID AS 'Work Order ID'
    FROM PARTS_USED PU
    -- Ensures all 60 primary keys do not have null values in them.
    WHERE PU.PartID IS NOT NULL
    and PU.WorkOrderID IS NOT NULL;

```

100 %

Results

	Part ID	Work Order ID
1	0818355604	0245421460
2	0866242420	0245421460
3	4483862646	1329486777
4	5426810347	1329486777
5	2025818582	1642972264

Messages

SQLQuery2.sql - a...UAD\mbrewer7 (91)*

```

/* Entity integrity test for ASSET_SUPPLIER table */
-- Insert Scripts to test uniqueness
Insert into ASSET_SUPPLIER values('1553882107', '2874624385');
Insert into ASSET_SUPPLIER values('1553882107', '0030025687');

-- Selects all 30 distinct primary keys to prove all primary keys are unique.
SELECT DISTINCT A.AssetID AS 'Asset ID',
    A.SupplierID AS 'Supplier ID'
    FROM ASSET_SUPPLIER A
        -- Ensures all 30 primary keys do not have null values in them.
        WHERE A.AssetID IS NOT NULL
            and A.SupplierID IS NOT NULL;

```

100 %

Messages

Msg 2627, Level 14, State 1, Line 45
Violation of PRIMARY KEY constraint 'PK_ASSET_SU_7FD2F4A3AFDF5CD5'. Cannot insert duplicate key in object 'dbo.ASSET_SUPPLIER'. The duplicate key value is (1553882107, 2874624385).
The statement has been terminated.

Msg 2627, Level 14, State 1, Line 46
Violation of PRIMARY KEY constraint 'PK_ASSET_SU_7FD2F4A3AFDF5CD5'. Cannot insert duplicate key in object 'dbo.ASSET_SUPPLIER'. The duplicate key value is (1553882107, 0030025687).
The statement has been terminated.

SQLQuery2.sql - a...UAD\mbrewer7 (91)*

```

/* Entity integrity test for ASSET_SUPPLIER table */
-- Insert Scripts to test uniqueness
Insert into ASSET_SUPPLIER values('1553882107', '2874624385');
Insert into ASSET_SUPPLIER values('1553882107', '0030025687');

-- Selects all 30 distinct primary keys to prove all primary keys are unique.
SELECT DISTINCT A.AssetID AS 'Asset ID',
    A.SupplierID AS 'Supplier ID'
    FROM ASSET_SUPPLIER A
        -- Ensures all 30 primary keys do not have null values in them.
        WHERE A.AssetID IS NOT NULL
            and A.SupplierID IS NOT NULL;

```

100 %

Results

	Asset ID	Supplier ID
1	0030025687	1037967536
2	2874624385	1037967536
3	3716163365	1381926231
4	4887684630	1381926231
5	0030025687	1553882107

Messages

Note: USER is a stand-alone table.

The screenshot shows two separate SQL queries in the SQL Query Editor. Both queries are identical, designed to test the uniqueness of primary keys in the USERS table.

```

SQLQuery2.sql - a...UAD\mbrewer7 (91)* ↵ X
/* Entity integrity test for USER table */
-- Insert Scripts to test uniqueness
Insert into USERS values ('8931072793', '7944061124', 'F-4g85bHPW', '2016-05-12', Null);
Insert into USERS values ('0341388010', '5425516460', 'Ir4rbBEj+0_A7WL', '2010-09-12', Null);
-- Selects all 30 distinct primary keys to prove all primary keys are unique.
SELECT DISTINCT U.UserID AS 'User ID',
    U.EmpID AS 'Employee ID',
    U.UserPassword AS 'Password'
FROM USERS U
    -- Ensures all 30 primary keys do not have null values in them.
    WHERE U.UserID IS NOT NULL;
100 % ▾

```

The first query is run in the "Messages" tab, resulting in two error messages:

```

Msg 2627, Level 14, State 1, Line 57
Violation of PRIMARY KEY constraint 'PK__USERS__1788CCAC73CFB731'. Cannot insert duplicate key in object 'dbo.USERS'. The duplicate key value is (8931072793).
The statement has been terminated.
Msg 2627, Level 14, State 1, Line 58
Violation of PRIMARY KEY constraint 'PK__USERS__1788CCAC73CFB731'. Cannot insert duplicate key in object 'dbo.USERS'. The duplicate key value is (0341388010).
The statement has been terminated.

```

The second query is run in the "Results" tab, displaying the following table of data:

	User ID	Employee ID	Password
1	0123456789	1212477095	Password
2	0341388010	5425516460	Ir4rbBEj+0_A7WL
3	0765940686	4359307467	2lEl8fRDfIQDk-o0^S@K4
4	1426569593	3459851464	^o6^YXRcO\$xFxH+=30y0
5	1441032341	9475027393	!6?yPgiT!

Referential Integrity Tests:

```

83 /* Referential integrity test for ACCIDENTS and EMPLOYEES relationship */
84 -- Displays 30 rows of data, thereby validating referential integrity.
85 -- Selects attributes from both tables to show referential integrity.
86 SELECT A.AccID AS 'Accident ID',
87       E.EmpFName + ' ' + E.EmpLName AS 'Name of Employee Involved'
88 -- Joins together tables on primary key/foreign key to validate referential integrity.
89 FROM ACCIDENTS A JOIN EMPLOYEES E
90   ON E.EmpID = A.EmpID
91
92 /* Referential integrity test for EMPLOYEES AND TECHNICIANS relationships */
93 -- Displays 30 rows of data, thereby validating referential integrity.
94 -- Selects attributes from both tables to show referential integrity.
95 SELECT T.EmpID AS 'Technician ID',
96       E.EmpFName AS 'Technician First Name',
97       E.EmpLName AS 'Technician Last Name',
98       T.TradeSpecialty AS 'Technician Specialty'
99 -- Joins together tables on primary key/foreign key to validate referential integrity.
100 FROM TECHNICIANS T JOIN EMPLOYEES E
101  ON T.EmpID = E.EmpID;
102

```

Results

	Accident ID	Name of Employee Involved
1	1362776825	Xavier Michaels
2	1647133129	Chad Wilkerson
3	2245027268	Raj Patel
4	2292385158	Damian Lillard
5	2305684419	Dwayne Wade
6	2596110249	Alec Baldwin
7	2811356748	Greg McKinney
8	2991460024	John Mayer
9	3510085322	Mark Ruffalo

Results

	Technician ID	Technician First Name	Technician Last Name	Technician Specialty
1	0123456789	John	Smith	HVAC
2	0133456789	Mo	Bamba	Pools
3	0233456789	LeBron	James	Landscaping
4	0333456789	Damian	Lillard	Carpentry
5	0433456789	Bradley	Beal	Landscaping
6	0485646926	Django	Unchained	HVAC
7	0490721952	Alec	Baldwin	HVAC
8	0533456789	Dwayne	Wade	Carpentry

```
103 /* Referential integrity test for EMPLOYEES AND OFFICE_STAFF relationships */
104 -- Displays 30 rows of data, thereby validating referential integrity.
105 -- Selects attributes from both tables to show referential integrity.
106 SELECT O.EmpID AS 'Office Staff ID',
107       E.EmpFName AS 'Office Staff First Name',
108       E.EmpLName AS 'Office Staff Last Name',
109       O.HrsWorkedPerWeek AS 'Hours Worked Per Week'
110     -- Joins together tables on primary key/foreign key to validate referential integrity.
111   FROM OFFICE_STAFF O JOIN EMPLOYEES E
112     ON O.EmpID = E.EmpID;
```

110 %

Results Messages

	Office Staff ID	Office Staff First Name	Office Staff Last Name	Hours Worked Per Week
1	0042412788	Arianna	Garcia	42.69
2	0344221044	Aria	Johnson	35.11
3	0713445833	Aurora	Anderson	39.32
4	0736351400	Zoe	Miller	26.20
5	1184867627	Cora	White	36.11
6	1333527072	Michelle	Obama	44.90
7	1430236724	Raelynn	Rodriguez	32.13
8	2531566610	Violet	Taylor	49.95

```
114 /* Referential integrity test for relationships between WORK_ORDERS AND the following tables:  
115 TECHNICIANS, OFFICE_STAFF, RESIDENTS, PROPERTY, TASKS */  
116 -- Displays 30 rows of data, thereby validating referential integrity.  
117 -- Selects attributes from all tables to validate referential integrity.  
118 SELECT W.WorkOrderID AS 'Work Order ID',  
119     T.TradeSpecialty AS 'Technician Specialty',  
120     O.HrsWorkedPerWeek AS 'Office Staff Hrs Per Week',  
121     R.ResName AS 'Resident Name',  
122     P.PropertyName AS 'Property Name',  
123     TS.TaskType AS 'Task Type'  
124 -- Joins together tables on primary key/foreign key to validate referential integrity.  
125 FROM WORK_ORDERS W, TECHNICIANS T, OFFICE_STAFF O, RESIDENTS R, PROPERTY P, TASKS TS  
126     WHERE W.TechID = T.EmpID  
127         AND W.CreatorID = O.EmpID  
128         AND W.ResidentID = R.ResidentID  
129         AND W.PropertyID = P.PropertyID  
130         AND W.TaskID = TS.TaskID;
```

110 %

The screenshot shows a SQL query results window. At the top, there are tabs for 'Results' and 'Messages'. The 'Results' tab is selected, displaying a table with 6 rows of data. The columns are labeled: Work Order ID, Technician Specialty, Office Staff Hrs Per Week, Resident Name, Property Name, and Task Type. The data is as follows:

	Work Order ID	Technician Specialty	Office Staff Hrs Per Week	Resident Name	Property Name	Task Type
1	0245421460	Carpentry	26.04	Sophia Jackson	El Paraiso	C04
2	1329486777	Pools	26.32	Elizabeth Moore	La Paz	Repair
3	1642972264	Carpentry	46.81	Reginald Casey	La Alma	C08
4	1665308421	Welding	44.90	Lawrence Curtis	Sol Rojo	Yearly Building Inspection
5	1858869730	Carpentry	29.76	Ruth Greene	San Salvador	C06
6	2168612953	HVAC	27.40	Jamal Brown	Mi Corazon	Repair

```

132 /* Referential integrity test for the relationship between PROPERTY and ASSETS */
133 -- Displays 30 rows of data, thereby validating referential integrity.
134 -- Selects attributes from both tables to validate referential integrity.
135 SELECT P.PropertyName AS 'Property Name',
136       A.AssetDescribe AS 'Asset Description',
137       A.AssetType AS 'Asset Type'
138 -- Joins together tables on primary key/foreign key to validate referential integrity.
139 FROM ASSETS A JOIN PROPERTY P
140   ON A.PropertyID = P.PropertyID;
141
110 %

```

	Property Name	Asset Description	Asset Type
1	San Salvador	Back Parking Lot - 75 spaces	Facility
2	Mi Corazon	Cafeteria Water Filter	Fixed Equip
3	La Manta	1995 Ford F150	Vehicle
4	Conchas	NULL	NULL
5	El Paraiso	Building Number 101	Facility
6	Bogota	Ice Machine	Fixed Equip
7	Las Flores	Cafeteria Refrig & Freezer Sys	Fixed Equip
8	Tierra Del Mar	Emergency Lighting Sys. Bldg 101	Fire Lighting
9	Santiago	master sink	NULL


```

142 /* Referential integrity test for the relationship between WORK_ORDERS AND PARTS_USED */
143 -- Displays 60 rows of data, thereby validating referential integrity.
144 -- Selects attributes from both tables to validate referential integrity.
145 SELECT W.LastMaintDate AS 'Work Order Last Maintenance Date',
146       PU.WorkOrderID AS 'Work Order ID',
147       PU.PartID AS 'Part ID'
148 -- Joins together tables on primary key/foreign key to validate referential integrity.
149 FROM WORK_ORDERS W JOIN PARTS_USED PU
150   ON W.WorkOrderID = PU.WorkOrderID;
151
110 %

```

	Work Order Last Maintenance Date	Work Order ID	Part ID
1	2019-12-06	0245421460	0818355604
2	2019-12-06	0245421460	0866242420
3	2019-04-18	1329486777	4483862646
4	2019-04-18	1329486777	5426810347
5	2018-12-16	1642972264	2025818582
6	2018-12-16	1642972264	6453146137
7	2008-07-30	1665308421	2145801385
8	2008-07-30	1665308421	5270358105
9	2020-08-22	1858869730	1204535835

```

152 /* Referential integrity test for the relationship between PARTS_USED AND PARTS */
153 -- Displays 60 rows of data, thereby validating referential integrity.
154 -- Selects attributes from both tables to validate referential integrity.
155 SELECT PU.WorkOrderID AS 'Work Order ID',
156     PU.PartID AS 'Part ID',
157     P.PartCategory AS 'Part Category'
158     -- Joins together tables on primary key/foreign key to validate referential integrity.
159     FROM PARTS P JOIN PARTS_USED PU
160     ON P.PartID = PU.PartID;
161

```

110 %

Results Messages

	Work Order ID	Part ID	Part Category
1	0245421460	0818355604	HVAC
2	0245421460	0866242420	HVAC
3	1329486777	4483862646	Nuts/Bolts/Screws
4	1329486777	5426810347	Blowers
5	1642972264	2025818582	Pumps
6	1642972264	6453146137	Pumps
7	1665308421	2145801385	HVAC
8	1665308421	5270358105	HVAC
9	1858869730	1204535835	Nuts/Bolts/Screws

```

162 /* Referential integrity test for the relationship between PARTS_PURCHASED AND PARTS */
163 -- Displays 60 rows of data, thereby validating referential integrity.
164 -- Selects attributes from both tables to validate referential integrity.
165 SELECT PP.SupplierID AS 'Supplier ID',
166     PP.PartID AS 'Part ID',
167     P.PartCategory AS 'Part Category',
168     P.PartSubCategory AS 'Part Subcategory'
169     -- Joins together tables on primary key/foreign key to validate referential integrity.
170     FROM PARTS P JOIN PARTS_PURCHASED PP
171     ON P.PartID = PP.PartID;
172

```

110 %

Results Messages

	Supplier ID	Part ID	Part Category	Part Subcategory
1	8061529499	0375280087	Compressors	2hp Air Compressor
2	8388174425	0375280087	Compressors	2hp Air Compressor
3	2801844619	0547436820	HVAC	Air Quality
4	8192075871	0547436820	HVAC	Air Quality
5	4085239879	0818355604	HVAC	Air Quality
6	9966475858	0818355604	HVAC	Air Quality
7	4085239879	0866242420	HVAC	Air Quality
8	9966475858	0866242420	HVAC	Air Quality

```
173 /* Referential integrity test for the relationship between PARTS_PURCHASED AND SUPPLIERS */
174 -- Displays 60 rows of data, thereby validating referential integrity.
175 -- Selects attributes from both tables to validate referential integrity.
176 SELECT PP.PartID AS 'Part ID',
177     PP.SupplierID AS 'Supplier ID',
178     S.SupplierName AS 'Supplier Name'
179 -- Joins together tables on primary key/foreign key to validate referential integrity.
180 FROM PARTS_PURCHASED PP JOIN SUPPLIERS S
181     ON PP.SupplierID = S.SupplierID;
182
```

110 %

Results Messages

	Part ID	Supplier ID	Supplier Name
1	0375280087	8061529499	Robert Hubbard
2	0375280087	8388174425	Amber Young
3	0547436820	2801844619	John Rollins
4	0547436820	8192075871	Carie Ramirez
5	0818355604	4085239879	Peter Smith
6	0818355604	9966475858	Laura Stein
7	0866242420	4085239879	Peter Smith
8	0866242420	9966475858	Laura Stein

```
183 /* Referential integrity test for the relationship between SUPPLIERS AND ASSET_SUPPLIER */
184 -- Displays 60 rows of data, thereby validating referential integrity.
185 -- Selects attributes from both tables to validate referential integrity.
186 SELECT A.AssetID AS 'Asset ID',
187     A.SupplierID AS 'Supplier ID',
188     S.SupplierName AS 'Supplier Name'
189 -- Joins together tables on primary key/foreign key to validate referential integrity.
190 FROM SUPPLIERS S JOIN ASSET_SUPPLIER A
191     ON S.SupplierID = A.SupplierID;
```

110 %

Results Messages

	Asset ID	Supplier ID	Supplier Name
1	0030025687	1037967536	David Cordova
2	2874624385	1037967536	David Cordova
3	3716163365	1381926231	Shannon Taylor
4	4887684630	1381926231	Shannon Taylor
5	0030025687	1553882107	Richard Shelton
6	2874624385	1553882107	Richard Shelton
7	3561854783	2258230140	Thomas Phillips
8	4064557878	2258230140	Thomas Phillips

```
193 /* Referential integrity test for the relationship between ASSET_SUPPLIER AND ASSET */
194 -- Displays 60 rows of data, thereby validating referential integrity.
195 -- Selects attributes from both tables to validate referential integrity.
196 SELECT ASU.SupplierID AS 'Supplier ID',
197     ASU.AssetID AS 'Asset ID',
198     A.AssetDescript AS 'Asset Description',
199     A.AssetType AS 'Asset Type'
200     -- Joins together tables on primary key/foreign key to validate referential integrity.
201     FROM ASSETS A JOIN ASSET_SUPPLIER ASU
202     ON A.AssetID = ASU.AssetID;
```

110 %

	Supplier ID	Asset ID	Asset Description	Asset Type
1	1037967536	0030025687	Back Parking Lot - 75 spaces	Facility
2	1037967536	2874624385	master sink	NULL
3	1381926231	3716163365	Hand Held Fire Extinguisher	Fire Extinguisher
4	1381926231	4887684630	Hand Held Fire Extinguisher, Bldg 101	Fire Extinguisher
5	1553882107	0030025687	Back Parking Lot - 75 spaces	Facility
6	1553882107	2874624385	master sink	NULL
7	2258230140	3561854783	Hand Held Fire Extinguisher	Fire Extinguisher
8	2258230140	4064557878	Fire Sprinkler System, Bldg 101	Fire Sprinkler

Basic Tests

1. INSERT statements - adding a new employee & new accident involving employee - NT, MB

SQLQuery7.sql - ac...UAD\ nvankay2 (82)* SQLQuery5.sql - ac...UAD\ nvankay2 (74)* SQLQuery1.sql - ac...UAD\ nvankay2 (67)*

```

/*Basic tests #1*/
/*1.Two INSERT statements executed together - the first one adding a new Employee, then
adding a new Accident involving that Employee, should succeed.*/
/*Accidents table before insert*/
select *
    from ACCIDENTS;

```

150 %

Results Messages

	AccID	EmpID	OccurrenceDate	AccidentAddress	AccidentType	WorkSuspDate	ResumeDate	WorkOrderNum	Status
1	1362776825	7944061124	2011-11-28	1413 S Lynx Dr, Tucson, AZ, 85713	Fell down stairs	2011-11-29	2011-12-02	1403604079	Minor
2	1647133129	4118122171	2012-06-18	288 West Mirrorsway, Tempe, AZ, 85280	Fell down stairs	2012-06-19	2012-11-24	3995754290	Major
3	2245027268	9475027393	2017-11-06	777 W Chandler Blvd, Chandler, AZ, 85225	Swallowed ink	2017-11-07	2017-11-10	9941356906	Minor
4	2292385158	0333456789	2018-02-04	50809 439th Ave, Wickenburg, AZ, 85390	Attacked by dog	2018-02-05	2018-02-24	2823168372	Major
5	2305684419	0533456789	2012-11-07	507 E Queen Creek Dr Apache Junction, AZ, 85218	Car crash	2012-11-08	2012-03-22	6885032822	Major
6	2596110249	0490721952	2016-07-07	247 E Gold Dust Way San Tan Valley, AZ, 85143	Fell down ladder	2016-07-08	2016-07-13	8958203970	Minor
7	2811356748	5368939476	2018-03-23	302 N Colorado St, Casa Grande, AZ, 85222	Hand crushed by door	2018-03-24	2018-04-01	3106504382	Minor
8	2991460024	8190360250	2018-02-06	728 East Cave Creek Road, Tucson, AZ, 85701	Hit by delivery truck	2018-02-07	2018-11-02	8551053772	Major
9	3510085322	3459851464	2015-04-06	5646 S Creosote Dr, Apache Junction, AZ, 85218	Fell from ladder	2015-04-07	2015-07-28	9570860474	Major
10	3538442355	0233456789	2012-06-20	508 E Silver Reef Rd Casa Grande, AZ, 85222	Car crash	2012-06-22	2012-06-23	7858463220	Minor

Query executed successfully.

acadsq17.asurite.ad.asu.edu | ASUAD\ nvankay2 (82) | SP20_CIS365_19668_TEAM5 | 00:00:00 | 30 rows

The screenshot shows a SQL Server Management Studio (SSMS) interface. At the top, there are three tabs: 'SQLQuery7.sql - ac...UAD\ nvankay2 (82)*' (selected), 'SQLQuery5.sql - ac...UAD\ nvankay2 (74)*', and 'SQLQuery1.sql - ac...UAD\ nvankay2 (67)*'. The main area contains a script window with the following content:

```
/*Basic tests #1*/
/*1.Two INSERT statements executed together - the first one adding a new Employee, then
adding a new Accident involving that Employee, should succeed.*/
/*Employees table before insert*/
select *
from EMPLOYEES;
```

Below the script window is a results grid titled 'Results'. It displays 61 rows of data from the 'EMPLOYEES' table. The columns are: EmpID, EmpFName, EmpLName, EmpAddress, EmpPhone#, EmpJobType, EmgContactName, EmgRelationship, and EmgContactPho. The data includes various employees like Aurora Anderson, Alec Baldwin, Mo Bamba, etc., with their respective addresses, phone numbers, job types, and emergency contact information.

	EmpID	EmpFName	EmpLName	EmpAddress	EmpPhone#	EmpJobType	EmgContactName	EmgRelationship	EmgContactPho
1	0713445833	Aurora	Anderson	10016 South Fountain Avenue, Pasadena, CA, 81003	321-223-2307	O	James Bond	Boyfriend	263-854-7765
2	0490721952	Alec	Baldwin	90234 Hollywood Boulevard, Los Angeles, CA 56701	122-680-2312	T	Alexandra Baldwin	Mother	231-404-8438
3	0133456789	Mo	Bamba	89000 North Jackson Street, Nashville, TN 90821	101-439-5661	T	Abbie Bamba	Girlfriend	971-449-9562
4	0433456789	Bradley	Beal	90782 North Jackson Street, Nashville, TN 90821	694-885-9647	T	Chloe McIntosh	Girlfriend	945-680-1191
5	1212477095	Jack	Bosco	12345 North 69th Avenue, Glendale, AZ 85308	623-456-9087	T	Donnie Bosco	Father	810-336-4904
6	4058468001	Chloe	Brown	10010 South Fountain Avenue, Pasadena, CA, 81003	202-743-7117	O	Leonardo DiCaprio	Boyfriend	047-341-6577
7	3781003956	Jimmy	Butler	12345 Chicago Boulevard, Chicago, IL, 34231	710-241-6433	T	Rashon Butler	Father	734-718-4418
8	1712589358	Victor	Charles	78902 West Paradise Lane, Glendale, AZ 85308	453-673-2965	T	Charlotte Charles	Girlfriend	239-931-3917
9	3663027200	Natalia	Clark	10027 South Fountain Avenue, Pasadena, CA, 81003	658-623-2623	O	Jamie Clark	Husband	066-506-3120

At the bottom left, a message says 'Query executed successfully.' and at the bottom right, it shows the session details: 'acadsq17.asurite.ad.asu.edu | ASUAD\ nvankay2 (82) | SP20_CIS365_19668_TEAM5 | 00:00:00 | 61 rows'.

The screenshot shows two separate windows of SQL Server Management Studio (SSMS) running side-by-side. Both windows have tabs at the top labeled 'SQLQuery7.sql - ac...UAD\ nvankay2 (82)*' and 'SQLQuery5.sql - ac...UAD\ nvankay2 (74)*'. The second window is active.

The code in the active window (SQLQuery5.sql) is:

```
/*Basic tests #1*/
/*1.Two INSERT statements executed together - the first one adding a new Employee, the second one
adding a new Accident involving that Employee, should succeed.*/
Insert into EMPLOYEES
values ('2346969567', 'Jones', 'MF', '1234 East Adams Street, Phoenix, AZ 99921', '333-345-5555', 'T', 'Jane Smith', 'Mother', '22
Insert into ACCIDENTS
values ('2343636969', '2346969567', '11-07-2018', '333 North Scottsdale Road, Scottsdale, AZ, 85260', 'Fall from ladder', '11-08-22')
```

The output messages below the code show:

```
(1 row(s) affected)
(1 row(s) affected)
```

In the bottom status bar, there is a green checkmark icon followed by the message "Query executed successfully." and other connection information.

SQLQuery7.sql - ac...UAD\ nvankay2 (82)* SQLQuery5.sql - ac...UAD\ nvankay2 (74)* SQLQuery1.sql - ac...UAD\ nvankay2 (67)*

```
/*Basic tests #1*
/*1.Two INSERT statements executed together - the first one adding a new Employee, the second one
adding a new Accident involving that Employee, should succeed.*/
/*Accidents table after insert*/
select *
from ACCIDENTS
where empid = '2346969567';
```

150 %

Results Messages

AccID	EmpID	OccurrenceDate	AccidentAddress	AccidentType	WorkSuspDate	ResumeDate	WorkOrderNum	Status
1	2343636969	2018-11-07	333 North Scottsdale Road, Scottsdale, AZ, 85260	Fall from ladder	2018-11-08	2019-01-07	8883412745	Major

Query executed successfully.

SQLQuery1.sql - a...UAD\ mbrewer7 (97)*

```
/*Basic Test #1. Two INSERT statements executed together - the first one adding a new Employee, the second one
adding a new Accident involving that Employee, should succeed.*/
select *
from EMPLOYEES
where EmpID = '2346969567';
```

100 %

Results Messages

EmpID	EmpFName	EmpLName	EmpAddress	EmpPhone#	EmpJobType	EmgContactName	EmgRelationship	EmgContactPhone	
1	2346969567	Jones	MF	1234 East Adams Street, Phoenix, AZ 99921	333-345-5555	T	Jane Smith	Mother	222-222-2222

2. INSERT statement executed together in opposite order should FAIL - NT, MB

SQLQuery1.sql - a...UAD\mbrewer7 (97)*

```
/*Basic Test #1. Two INSERT statements executed together – the first one adding a new Employee, the second one adding a new Accident involving that Employee, should succeed.*/
select *
from EMPLOYEES
where EmpID = '0222269813';
```

100 %

Results Messages

EmpID	EmpFName	EmpLName	EmpAddress	EmpPhone#	EmpJobType	EmgContactName	EmgRelationship	EmgContactPhone

SQLQuery7.sql - ac...UAD\nvankay2 (82)*

SQLQuery1.sql - ac...UAD\nvankay2 (67)*

```
/*Basic Test 2*/
/*A similar two INSERT statements executed together in the opposite order should fail.*/
Insert into ACCIDENTS
values ('9356683562', '0222269813', '09-16-2014', '563 East Elliot Road, Gilbert, AZ, 85234', 'Fell from vehicle', '09-17-2014', '09-18-2014');
Insert into EMPLOYEES
values ('0222269813', 'Lovin', 'Mc', '89021 North Jackson Street, Nashville, TN 90821', '353-243-5081', 'T', 'Savannah James', 'Winnipeg, MB, Canada');
```

100 %

Messages

Msg 547, Level 16, State 0, Line 3
The INSERT statement conflicted with the FOREIGN KEY constraint "FK_ACCIDENTS_EmpID_S441852A". The conflict occurred in database "SP".
The statement has been terminated.

(1 row(s) affected)

100 %

AcadSQL17.asurite.ad.asu.edu | ASUAD\nvankay2 (82) | SP20_CIS365_19668_TEAM5 | 00:00:00 | 0 rows

A Query completed with errors.