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Please give your first and last name.	Open-Ended Response	Solution	Ryan Lockman
Name 3 keywords from the SQL standard that are for the DDL functions of SQL.	1	CREATE	ALTER
	2	ALTER	CREATE
	3	DROP	DROP
Write the generic form of an SQL Query.	Open-Ended Response	SELECT <attribute list> FROM <table list> WHERE <boolean condition>;	SELECT * FROM ANIMAL Where Species = 'mammal';
SQL is a procedural language.	Response	FALSE	TRUE
Normalization is accomplished by writing relational algebra for each table involved in the database.	Response	FALSE	TRUE
What is the closure set (F) of a relation?	Response	The set of functional dependencies that are specified on relation schema R.	The set of all dependencies that include F as well as all dependencies that can be inferred from F.
A functional dependency is ...	Response	A constraint between two sets of attributes from a database.	A constraint between two sets of attributes from a database.
Why do we normalize our databases?	Response	To minimize anomalies, wasted NULL space and spurious tuples.	To minimize anomalies, wasted NULL space and spurious tuples.

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How do you resolve a relation that is not in first normal form (1NF)?	Open-Ended Response	Remove the multivalued or composite attribute(s) to a new table, taking the key of the original relation with them.	You get rid of all the multivalued attributes or nested relations.
A relation is in 2NF when all transitive dependencies have been resolved.	Response	FALSE	FALSE
I can identify a transitive dependency by looking for something that occurs in the Functional Dependency diagram. What is it?	Open-Ended Response	A functional dependency arrow points to the attribute and another points away from it.	Transitive dependency is a function dependency that holds its virture of relationship.

Please give your first and last name.	Open-Ended Response	Solution	Ryan Lockman
I can resolve a relation to 3NF by removing the transitive portion of the dependency and leaving behind a copy of the key of the new relation that I removed.	Response	TRUE	TRUE
Hierarchical databases are built exclusively with balanced trees.	Response	FALSE	TRUE
Use of a one, two or three digit alpha sequence placed to the upper left of each record type drawn in a hierarchical model is called a type indicator. Type indicators are used to implement...	Response	linearized storage	indexes
What makes a VPCR-Type work properly?	Response	Both of the above.	Both of the above.
When do I need to use a VPCR-Type in the Hierarchical database?	Response	When Cardinality of the sets in the hierarchy is greater than 1:N	When Cardinality of the sets in the hierarchy is greater than 1:N
The Virtual Parent Child Record Type is represented with right angles and arrows.	Response	FALSE	FALSE
Name 3 benefits of using object oriented design for databases.	1	message passing	Encapsulation
	2	iheritance	Polymorphism
	3	polymorphism	Multiple Inheritance and Selective Inheritance

Please give your first and last name.	Open-Ended Response	Solution	Ryan Lockman
How are object id's assigned in the object oriented database?	Response	By the dbms.	By the dbms.
In the Object Oriented database the object structure consists of 3 parts. (Fill in the rest of each sentence.)	i is the	OID	unique id
	c is the	constructor	type constructor
	v is the	value assigned	object state
In the Object Oriented database, with its forced Object ID system, what does v look like when c is an array constructor?	Open-Ended Response	<OID, ([OID],[OID],[OID],...)>	initialized object state
A distributed database ... *Distributed databases come with extra dbms software to manage...(choose any that apply)*	Response	Belongs physically to many sites	Both of the above
	Access remote sites	Access remote sites	Access remote sites
	Transmiting queries and data	Transmiting queries and data	
	Tracking data distribution	Tracking data distribution	Tracking data distribution
	Tracking replication	Tracking replication	Tracking replication

Please give your first and last name.	Open-Ended Response	Solution	Ryan Lockman
	Devising execution strategies for using data at multiple sites	Devising execution strategies for using data at multiple sites	Devising execution strategies for using data at multiple sites
	Deciding which copy of data to access if replicas exist	Deciding which copy of data to access if replicas exist	Deciding which copy of data to access if replicas exist
	Maintaining integrity if replicas exist	Maintaining integrity if replicas exist	Maintaining integrity if replicas exist
	Recovering from site/network communication failures	Recovering from site/network communication failures	Recovering from site/network communication failures
	None of the above.	x	
Users and their roles or functions are one of the factors that determine how a database might be distributed.	Response	TRUE	TRUE

Please give your first and last name.	Open-Ended Response	Solution	Ryan Lockman
In the distributed database, what architecture is commonly use for working with the database from many sites?	Open-Ended Response	Client/Server Architecture	heterogeneous architecture −1
Horizontal fragments of a distributed database system are described using what Relational Algebra operator?	Open-Ended Response	Select (sigma)	#NAME? −1
The fragmentation schema is simply the set of all fragments that satisfies the condition that the whole database can be reconstructed via SQL Queries.	Response	TRUE	TRUE
An Allocation Schema is a map of all the fragments at their physical locations and the redundancy planned for the database.	Response	TRUE	TRUE
When planning for redundancy in a system that is read-intensive and has transactions occurring from every site, how much replication would you design your database to have?	Response	Full Replication	Partial Replication −1
What are the 2 defining characteristics of the Relational Database in Stonebraker's model.	1	Simple Data	querey or no querey −1
	2	Queries (ad hoc)	simple or copmplex data −1

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Databases are collections that have certain properties, one of which is that events change the state of the database. Name an event that causes interaction in your zoo database that you built in class.	Open-Ended Response	New animal, feeding time, new zoo keeper....	using a querey to insert a new row into the database when an animal has been fed to record the feeding time, date, etc.
What formal notation is used to show the conceptual level of the 3-schema architecture model?	Open-Ended Response	Schema Constructs	constructs/conceptual schema
Referential integrity is implemented with foreign keys. Choose the two rules that apply to foreign keys from this list.	Has the same domain as the primary key attribute in another relation schema. Must be a multivalued attribute. Must be unique for all instances and states of the relation R.	Has the same domain as the primary key attribute in another relation schema.	Has the same domain as the primary key attribute in another relation schema.

Please give your first and last name.	Open-Ended Response	Solution	Ryan Lockman
	Occurs as a value of PK for some tuple t or is NULL	Occurs as a value of PK for some tuple t or is NULL	Occurs as a value of PK for some tuple t or is NULL
	Is boolean.		
	Must be a composite attribute.		
In the case where the size of R is less than the size of B, the blocking factor (bfr) is	Response	The number of whole records that fit in the block.	The average number of records that fit in the block.
In an ER diagram, (min, max) constraints describe (choose one)	Response	The requirements for participation by members of an Entity in a relationship.	The requirements for participation by members of an Entity in a relationship.
In a ternary (or higher) degree relationship shown in an ER diagram, what must hold true at all times? Choose all that apply.	Cardinality must be the same for all Entities in the structure.		
	(min, max) constraints must apply in all directions for the related Entities.	(min, max) constraints must apply in all directions for the related Entities.	(min, max) constraints must apply in all directions for the related Entities.

Please give your first and last name.	Open-Ended Response	Solution	Ryan Lockman
	Cardinality constraints must hold for all Entities connected to the relationship. The cardinalities from your VEN diagrams will be reversed or swapped on the diagram.	Cardinality constraints must hold for all Entities connected to the relationship.	Cardinality constraints must hold for all Entities connected to the relationship.
In the EER diagram, specializations are made for what purpose(s)? Choose all that apply.	To add more detail for a certain subset of records.	To add more detail for a certain subset of records.	To add more detail for a certain subset of records.

Please give your first and last name.	Open-Ended Response	Solution	Ryan Lockman
	The differentiate domains of an attribute.		The differentiate domains of an attribute.
	To form new relationships with a subset of records.	To form new relationships with a subset of records.	To form new relationships with a subset of records.
	To further describe the parent relation.		
	To make rules for how data entry will be done.		
	To hold the rest of the records that were not in the other subsets.		

Please give your first and last name.	Open-Ended Response	Solution	Ryan Lockman
In Relational Algebra, what does FULL OUTER JOIN accomplish when producing a query result from the tables R and S when the boolean PK = FK is true?	Open-Ended Response	It keeps all tuples in both the left and the right relations; matching when PK = FK and padding NULL when no match was found.	It would return all rows from the left table of R and from the right table of S; where the primary key is the same as the foreign key.
In a B-Tree, what is true of the occurrences of the indexed values?	Response	The values appear only once in the tree and are utilized in pre-order traversal.	The values appear only once in the tree and are utilized in pre-order traversal.
In a B+-Tree, why does the tree get wider faster?	Response	Internal nodes hold more values because data pointers don't take up space; I can hang more leaf nodes from the extra tree pointers.	Data pointers occur only at the leaf level.
The union (U) of two entities is only possible when the entities are <what kind of sets>?	Open-Ended Response	Same real-world sets.	the same type of tuples
The JOIN of two sets is based on boolean matching of attributes values in different real-world sets.	Response	TRUE	TRUE

Please give your first and last name.	Open-Ended Response	Solution	Ryan Lockman
Booleans shown beside the sigma operator in Relational Algebra narrow the number of columns that are returned by the query.	Response	FALSE	FALSE
New foreign keys must always be added to specializations in and EER diagram.	Response	FALSE	FALSE
When I make a generalization from same real world sets, I understand that I will be using a bottom up implementation for my database.	Response	TRUE	TRUE
Good design for referential integrity includes not allowing a primary key value to be deleted while foreign key(s) are pointing to it.	Response	TRUE	TRUE
Order is not relevant in set theory but an SQL insert statement is ordered because physical storage happens in a certain order.	Response	TRUE	TRUE
Hierarchical database systems have an unlimited number of different real world sets connected by right angled lines and tree levels in the order of creation.	Response	FALSE	TRUE

Please give your first and last name.	Open-Ended Response	Solution	Ryan Lockman
When aggregating data in a relational algebra query, I must name the grouping attribute and the aggregation function on a different attribute ; I must also name the output of the aggregation for each grouping value in the left side of the equation.	Response	TRUE	TRUE
When aggregating data in an SQL query, I must use the GROUP BY keyword and specify the grouping attribute ; I also must provide the aggregation function on a different attribute and the name I will give it in the SELECT portion of the Query.	Response	TRUE	TRUE

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