Career Services Assignment 6 – SQL Flash Cards

Instructions: Research common SQL interview questions online and create 20 flash cards from the information you find. Study your flash cards regularly to better prepare for interviews. Fill out the table below with the information you put on each of your flash cards.

Front of Card	Back of Card
What are fields and tables?	A table is a set of data organized into rows and columns. The column names are called fields.
What are the different types of SQL languages?	There are 3 different types of SQL languages: DDL = Data Definition Language – used to create, alter, and delete tables and table structure. DML = Data Manipulation Language – used to manipulate and retrieve data. Can insert, update, delete, and retrieve data. DCL = Data Control Language – used for setting access to the database, granting user permissions, etc.
What are Joins?	Joins are used to combine rows from 2 or more tables using a related column.
What are the 4 types of Joins?	Inner join = retrieves rows that have matching values in the tables in the join. Left (outer) join = retrieves all the records from the left table and matching rows from the right table even if the rows in the right table are empty. Right (outer) join = retrieves all the records from the right table and matching rows from the left table, even if the rows in the left table are empty. Full join = return all the rows from both tables.
What are relationships in a database?	Relationships are the connection between tables in a database.
What are the types of relationships in a database?	One-to-one = one record in a table corresponds to only one record in another table. One-to-many/Many-to-one = one record in a table corresponds to many records in another table. Many-to-many = many records in one table correspond to many records in another table.

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What are primary keys?	Primary keys are usually single columns or fields used to uniquely identify each row. They must not be null, and each table can have only one primary key. Multiple fields can be combined to make a composite primary key.
What are foreign keys?	A foreign key is usually a column that has the primary key of another table. This defines the relationship between two tables.
What is a query?	A query is language written to retrieve information from a database.
What is a subquery?	A subquery is a query within another query.
What are constraints?	Constraints are limitations put on data types in a table, such as not null, default, primary key, or foreign key.
What is auto_increment and why would you use it?	Auto_increment is a function of the database that generates a unique number, usually an integer, for each record in a table. It is best used to create primary keys.
What is a default constraint?	A default constraint defines a value for a column so that any new records automatically get the default value if the user does not put a value in that column.
What are some keywords for a query?	Queries start with SELECT, then use FROM to define the table(s) to get data from. WHERE is used to filter records so you only get the records that contain the data you want. ORDER BY is used to sort the data in ASCending order or DESCending order. GROUP BY is used to gather records that have identical data and may be used with aggregate keywords to create summaries. HAVING is the keyword used with GROUP BY to filter aggregated records.
What are aggregate functions?	Aggregate functions are used to summarize data without having to retrieve every row. AVG(arg) = returns the average value of the argument. SUM(arg) = returns the sum of the argument. COUNT(arg) = returns the number of rows that meet the criteria defined in the query. MIN(arg), MAX (arg) = returns the smallest and largest values in the argument.
What is the ACID property in a database?	ACID stands for Atomicity, Consistency, Isolation, and Durability.

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What is Atomicity?	Atomicity means that if any part of a transaction fails, the entire transaction fails, and the database is not changed in any way.
What is Consistency?	Consistency means that the data is always valid and validated based on rules created and applied in the schema.
What is Isolation?	Isolation means that each transaction is not affected by any other transactions occurring. Rows can be updated even if someone is reading them.
What is Durability?	Durability means that once the data is properly entered into the database and committed, it remains in the database until it is removed by a programmer or authorized user. Even system crashes cannot disrupt the data.