# Career Services Assignment 6 – SQL Flash Cards

**Points possible:** 50

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| Category | Criteria | % of Grade |
| Completeness | All requirements of the assignment are complete. | 100 |

**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.

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| **Front of Card** | **Back of Card** |
| **1. What is DBMS?** | A Database Management System (DBMS) is a program that controls creation, maintenance and use of a database. DBMS can be termed as File Manager that manages data in a database rather than saving it in file systems. |
| **2. What is RDBMS?** | RDBMS stands for Relational Database Management System. RDBMS store the data into the collection of tables, which is related by common fields between the columns of the table. It also provides relational operators to manipulate the data stored into the tables. |
| **3. What is SQL?** | SQL stands for Structured Query Language , and it is used to communicate with the Database. This is a standard language used to perform tasks such as retrieval, updation, insertion and deletion of data from a database.  Standard SQL Commands are Select. |
| **4. What is a Database?** | Database is nothing but an organized form of data for easy access, storing, retrieval and managing of data. This is also known as structured form of data which can be accessed in many ways.  Example: School Management Database, Bank Management Database. |
| **5. What are tables and Fields?** | A table is a set of data that are organized in a model with Columns and Rows. Columns can be categorized as vertical, and Rows are horizontal. A table has specified number of column called fields but can have any number of rows which is called record.  Example:.  Table: Employee.  Field: Emp ID, Emp Name, Date of Birth.  Data: 201456, David, 11/15/1960. |
| **6. What is a primary key?** | A primary key is a combination of fields which uniquely specify a row. This is a special kind of unique key, and it has implicit NOT NULL constraint. It means, Primary key values cannot be NULL. |
| **7. What is a unique key?** | A Unique key constraint uniquely identified each record in the database. This provides uniqueness for the column or set of columns.  A Primary key constraint has automatic unique constraint defined on it. But not, in the case of Unique Key.  There can be many unique constraint defined per table, but only one Primary key constraint defined per table. |
| **8. What is a foreign key?** | A foreign key is one table which can be related to the primary key of another table. Relationship needs to be created between two tables by referencing foreign key with the primary key of another table. |
| **9. What is a join?** | This is a keyword used to query data from more tables based on the relationship between the fields of the tables. Keys play a major role when JOINs are used. |
| **10. What are the types of join and explain each?** | There are various types of join which can be used to retrieve data and it depends on the relationship between tables. |
| **11. What is normalization?** | Normalization is the process of minimizing redundancy and dependency by organizing fields and table of a database. The main aim of Normalization is to add, delete or modify field that can be made in a single table. |
| **12. What is Denormalization.** | DeNormalization is a technique used to access the data from higher to lower normal forms of database. It is also process of introducing redundancy into a table by incorporating data from the related tables. |
| **13. What are all the different normalizations?** | The normal forms can be divided into 5 forms, and they are explained below -. |
| **14. What is a View?** | A view is a virtual table which consists of a subset of data contained in a table. Views are not virtually present, and it takes less space to store. View can have data of one or more tables combined, and it is depending on the relationship. |
| **15. What is an Index?** | An index is performance tuning method of allowing faster retrieval of records from the table. An index creates an entry for each value and it will be faster to retrieve data. |
| **16. What are all the different types of indexes?** | There are three types of indexes -.   * **Unique Index.**   This indexing does not allow the field to have duplicate values if the column is unique indexed. Unique index can be applied automatically when primary key is defined.   * **Clustered Index.**   This type of index reorders the physical order of the table and search based on the key values. Each table can have only one clustered index.   * **NonClustered Index.**   NonClustered Index does not alter the physical order of the table and maintains logical order of data. Each table can have 999 nonclustered indexes. |
| **17. What is a Cursor?** | A database Cursor is a control which enables traversal over the rows or records in the table. This can be viewed as a pointer to one row in a set of rows. Cursor is very much useful for traversing such as retrieval, addition and removal of database records. |
| **18. What is a relationship and what are they?** | Database Relationship is defined as the connection between the tables in a database. There are various data basing relationships, and they are as follows:.   * One to One Relationship. * One to Many Relationship. * Many to One Relationship. * Self-Referencing Relationship |
| **19. What is a query?** | A DB query is a code written in order to get the information back from the database. Query can be designed in such a way that it matched with our expectation of the result set. Simply, a question to the Database. |
| **20. What is subquery?** | A subquery is a query within another query. The outer query is called as main query, and inner query is called subquery. SubQuery is always executed first, and the result of subquery is passed on to the main query. |