**SQL QUESTION AND ANSWER**

1. **WHAT ARE THE FOUR TYPES OF JOIN & EXPLAIN THEM?**

Types of Join

1. Left Join
2. Right Join
3. Inner Join
4. Full Join
5. Left Join: This is a command that returns all rows from the left table and the matching rows from the right table. The result is NULL from the right side, if there is no match.

For example:

SELECT \* FROM `pivot`. `sets` Left join `pivot`. `themes` on `pivot`. `themes`. `id`=`pivot`.`sets`.`theme\_id`

1. Right Join: This is similar to left join except they return all rows from the table in the right join clause and only matching rows from the table in the FROM clause. It is rarely used because you can ach8ieve the results of a right join by simply switching the two joined table names in a left join.

For example;

SELECT \* FROM `pivot`. `sets` Right join `pivot`. `themes` on `pivot`. `themes`. `id`=`pivot`.`sets`.`theme\_id`

1. Inner Join; this creates a new table (not physical) by combining rows that have matching values in two or more tables. This join is based on a logical relationship or a common field between the tables and is used to retrieve data that appears in both tables. This will not include NULL because it is joining all that are matching.

For example;

SELECT \* FROM `pivot`. `sets` Inner join `pivot`. `themes` on `pivot`. `themes`. `id`=`pivot`.`sets`.`theme\_id`

1. Full join; this creates a new table by joining two tables as a whole. The joined table contains all records from both the tables and fills NULL values for missing matches on either side i.e. full join is a type of outer join that combines the result-sets of both left and right joins.

For example;

1. SELECT \* FROM `pivot`. `sets` Left join `pivot`. `themes` on `pivot`. `themes`. `id`=`pivot`.`sets`.`theme\_id`
2. UNION
3. SELECT \* FROM `pivot`. `sets` Right join `pivot`. `themes` on `pivot`. `themes`. `id`=`pivot`.`sets`.`theme\_id`
4. **WHAT IS CTE AND EXPLAIN?**

CTE stands for COMMON TABLE EXPRESSIONS. This means that it gives us the ability to define a sub query and give it a name. It helps keep your code organized and allow you to perform multi-level aggregations on your data, like finding the average of a set of counts. it can reference the results multiple time4s throughout the query.

The syntax for a CTE uses the WITH keyword and a variable name to create a kind of temporary table that you can reference in other parts of your query.

For example;

1. With Valuation As (
2. SELECT \* FROM football.player\_valuations Where football.player\_valuations.market\_value\_in\_eur > 100000)
3. SELECT \* FROM valuation

Where valuation is the name we want to give it.

1. **WHAT IS REGULAR EXPRESSION?**

Regular expression also known as REGEX is used for finding patterns matching in streams and text. It is a seq2uence of characters used to search and locate specific sequences of characters that match a pattern.