**1. What is the difference between varchar and nvarchar datatypes in sql server?**

|  |  |  |
| --- | --- | --- |
| **Property** | **VARCHAR** | **NVARCHAR** |
| **Character Data Type** | Variable-length and non-Unicode characters | Variable-length, both Unicode and non-Unicode characters like as Chinese, Korean, or Japanese. |
| **Usage** | It is used only when data length is variable or variable length columns, furthermore if the actual data is always way less than capacity | Due to storage only, used only if you would like Unicode support such as the Japanese Kanji or Korean Hangul characters. |
| **Storage Size** | Real Length (in bytes) | Two (2) times Actual Length (in bytes) |
| **Character Size** | Takes up one(1) byte per character | Takes up two (2) bytes per Unicode/Non-Unicode character |
| **Maximum Length** | Range From 1 to 8,000 characters | The Range from 1 to 4,000 characters |

**2. Can we insert null as value in column? How to restrict that in sql server?**

**Check this practially.**

By default, a column can hold NULL values. The NOT NULL constraint enforces a column to NOT accept NULL values.

**CREATE TABLE customers(**

**ID INT AUTO\_INCREMENT PRIMARY KEY,**

**NAME VARCHAR(50) NOT NULL,**

**GENDER VARCHAR(20) NOT NULL,**

**)**

**3. What is Primary Key? Why do we use it?**

A primary key is a column(s) within a relational database table that uniquely represents each record in the table. For example, the ideal primary key for a table of students would be their ID number, as this would uniquely identify each student in the table.

**Use of Primary Key: -**

Each table Within a database will have its own primary key. The main purpose of designating a primary key is to identify each unique record in a particular table.

This makes it far easier to search for any particular record in any given table. It also makes it much easier to identify a particular record that may have certain data in common with other records.

**4. What is** **Foreign Key? What are** **the advantages of it?**

* a Foreign Key is a column (or combination of columns) in a table whose values match the values of a Primary Key column in another table. Using the Foreign key, we can link two tables together.
* A Foreign Key is also known as a Referencing key of a table because it can reference any field defined as unique.

**Advantages of Foreign key: -**

* A Foreign Key is used to reduce the redundancy (or duplicates) in the table.
* It helps to normalize (or organize the data in a database) the data in multiple tables.
* To linking to tables, The Foreign key constraint ensures referential integrity by preventing changes to data in the primary key table from invalidating the link to data in the foreign key table.
* i.e. Foreign key prevents operations, like “dropping the table”, that would eliminate the connection between two tables.