Difference between Primary Key and Candidate key

Both **Primary Key** and **Candidate key** are used to get records from tables. These keys are also used to create relationships between tables. Both primary keys and candidate keys are used to identify the records uniquely in a table.

Read this article to find out more about primary keys and candidate keys and how they are different from each other.

What is a Primary Key?

A **primary key** helps us to uniquely identify a record in a relational database. a primary key is a unique identifier for each record or row of data. It ensures that no two records have the same key value. In a table, only one primary key is allowed.

The primary key is typically defined when a database table is created. It is a combination of the "UNIQUE" and "Not Null" constraints. This means it can't be a NULL value or a duplicate entry.

In a relational database, the primary key is the most important part of a table. The value of a primary key cannot be deleted from parent table.

What is a Candidate Key?

In a relational database, a candidate key can be a single column or combination of more than one column that could be used as a primary key. A "**minimal super key**" is called a **candidate key**. The candidate key can have a NULL value, unlike a primary key. A candidate key may or may not be a primary key.

A table can have one or more candidate keys, but only one of them can be designated as the primary key. The other candidate keys are called "**alternate keys**". In most cases, a candidate key is selected as the primary key based on its suitability and relevance to the data in the table.

The candidate key tells about which key can be used as a primary key. However, similar to a primary key, the candidate key is also a unique key that helps in identifying a record uniquely in a relation/table.

Difference between Primary Key and Candidate key

The following table highlights the important differences between a Primary Key and a Candidate Key –

S. No.	Primary Key	Candidate Key
1.	Primary key is a unique and non–null key which identify a record uniquely in table.	Candidate key is also a unique key to identify a record uniquely in a table.
2.	Primary key column value cannot be NULL.	Candidate key column can have NULL value.
3.	Primary key is most important part of any relation or table.	Candidate key signifies as which key can be used as Primary Key.
4.	Primary Key is a candidate key.	Candidate key may or may not be a primary key.
5.	A table can have only one primary key.	A table can have multiple candidate keys.

Conclusion

A primary key is used to uniquely identify a record in a table, while a candidate key helps in selecting the primary key. Another key difference between a primary key and a candidate key is that a table can have only one primary key, but there can be multiple candidate keys.