**Dictionaries in C#**

A Dictionary in C# is a collection of key-value pairs, where each key is unique, and it allows efficient lookups, additions, and deletions. It's part of the System.Collections.Generic namespace.

**Key Features:**

* Keys are unique and must be immutable (e.g., strings, integers).
* Values can be of any type, and duplicates are allowed for values.
* Provides fast lookups based on keys.

| **Method/Property** | **Description** |
| --- | --- |

|  |  |
| --- | --- |
| Add(key, value) | Adds a key-value pair to the dictionary. Throws an exception if the key already exists. |

|  |  |
| --- | --- |
| ContainsKey(key) | Checks if the dictionary contains a specific key. |

|  |  |
| --- | --- |
| ContainsValue(value) | Checks if the dictionary contains a specific value. |

|  |  |
| --- | --- |
| Remove(key) | Removes the key-value pair with the specified key. Returns true if successful. |

|  |  |
| --- | --- |
| TryGetValue(key, out value) | Attempts to get the value associated with a key without throwing an exception if the key is not found. |

|  |  |
| --- | --- |
| Keys | Returns a collection of all keys. |

|  |  |
| --- | --- |
| Values | Returns a collection of all values. |

|  |  |
| --- | --- |
| Clear() | Removes all key-value pairs from the dictionary. |

|  |  |
| --- | --- |
| Count | Gets the number of key-value pairs in the dictionary. |

