**File modes in Python (syntax and use cases)**

The following table provides an overview of different file modes, their syntax, and common use cases. Understanding these modes is essential when working with files in Python for various data manipulation tasks.

| **Mode** | **Syntax** | **Description** |
| --- | --- | --- |
| ‘r’ | 'r' | Read mode. Opens an existing file for reading. Raises an error if the file doesn't exist. |
| ‘w’ | 'w' | Write mode. Creates a new file for writing. Overwrites the file if it already exists. |
| ‘a’ | 'a' | Append mode. Opens a file for appending data. Creates the file if it doesn't exist. |
| ‘x’ | 'x' | Exclusive creation mode. Creates a new file for writing but raises an error if the file already exists. |
| ‘rb’ | 'rb' | Read binary mode. Opens an existing binary file for reading. |
| ‘wb’ | 'wb' | Write binary mode. Creates a new binary file for writing. |
| ‘ab’ | 'ab' | Append binary mode. Opens a binary file for appending data. |
| ‘xb’ | 'xb' | Exclusive binary creation mode. Creates a new binary file for writing but raises an error if it already exists. |
| ‘rt’ | 'rt' | Read text mode. Opens an existing text file for reading. (Default for text files) |
| ‘wt’ | 'wt' | Write text mode. Creates a new text file for writing. (Default for text files) |
| ‘at’ | 'at' | Append text mode. Opens a text file for appending data. (Default for text files) |
| ‘xt’ | 'xt' | Exclusive text creation mode. Creates a new text file for writing but raises an error if it already exists. |
| ‘r+’ | 'r+' | Read and write mode. Opens an existing file for both reading and writing. |
| ‘w+’ | 'w+' | Write and read mode. Creates a new file for reading and writing. Overwrites the file if it already exists. |
| ‘a+’ | 'a+' | Append and read mode. Opens a file for both appending and reading. Creates the file if it doesn't exist. |
| ‘x+’ | 'x+' | Exclusive creation and read/write mode. Creates a new file for reading and writing but raises an error if it already exists. |