1. `isinstance()`

- Description: Used to check if an object is of a specific type.
- Syntax: `isinstance(object, type)`
- Returns: `True` if the object is of the specified type, otherwise `False`.

Example:

```
x = 10
print(isinstance(x, int))   True

y = "Hello"
print(isinstance(y, str))   True
print(isinstance(y, int))   False
```

2. `isalnum()`

- Description: Checks if a string consists of only alphanumeric characters (letters and numbers). It returns `False` if there are any special characters or spaces.

- Syntax: `string.isalnum()`

- Returns: `True` if all characters are alphanumeric, otherwise `False`.

Example:

s = "Hello123"

print(s.isalnum()) True

s = "Hello 123"

print(s.isalnum()) False (space is not alphanumeric)

3. `isalpha()`

- Description: Checks if all characters in a string are alphabetic (letters only).

- Syntax: `string.isalpha()`

- Returns: `True` if all characters are alphabetic, otherwise `False`.

Example:

```
s = "Hello"
print(s.isalpha())   True

s = "Hello123"
print(s.isalpha())   False (contains numbers)
```

4. `isdigit()`

- Description: Checks if all characters in a string are digits (numbers).

- Syntax: `string.isdigit()`

- Returns: `True` if all characters are digits, otherwise `False`.

Example:

s = "12345"

print(s.isdigit()) True

s = "12345a"

print(s.isdigit()) False (contains a letter)

5. `islower()`

- Description: Checks if all characters in a string are lowercase letters.

- Syntax: `string.islower()`

- Returns: `True` if all alphabetic characters are lowercase, otherwise `False`.

Example:

s = "hello"

print(s.islower()) True

s = "Hello"

print(s.islower()) False (contains uppercase 'H')

6. `isupper()`

- Description: Checks if all characters in a string are uppercase letters.

- Syntax: `string.isupper()`

- Returns: `True` if all alphabetic characters are uppercase, otherwise `False`.

Example:

s = "HELLO"

print(s.isupper()) True

s = "Hello"

print(s.isupper()) False (contains lowercase letters)

7. `isspace()`

- Description: Checks if all characters in a string are whitespace characters (spaces, tabs, newlines).

- Syntax: `string.isspace()`

- Returns: `True` if the string consists only of whitespace, otherwise `False`.

Example:

s = " "

print(s.isspace()) True

s = "Hello World"

print(s.isspace()) False (contains non-whitespace characters)

8. `startswith()`

- Description: Checks if a string starts with a specific prefix.

- Syntax: `string.startswith(prefix)`

- Returns: `True` if the string starts with the specified prefix, otherwise `False`.

Example:

```
s = "Hello World"
print(s.startswith("Hello"))   True

print(s.startswith("World"))   False
```

9. `endswith()`

- Description: Checks if a string ends with a specific suffix.
- Syntax: `string.endswith(suffix)`
- Returns: `True` if the string ends with the specified suffix, otherwise `False`.

Example:

```
s = "Hello World"
print(s.endswith("World"))   True

print(s.endswith("Hello"))   False
```

10. `isdecimal()`

- Description: Checks if all characters in a string are decimal characters (used in base-10 numbers).

- Syntax: `string.isdecimal()`

- Returns: `True` if all characters are decimal numbers, otherwise `False`.

Example:

s = "12345"

print(s.isdecimal()) True

s = "12.34"

print(s.isdecimal()) False (contains a decimal point)

Summary Table

Method	Checks for	Example Input	Returns
`isinstance()`	If the object is of a specified type	`isinstance(10, int)`	`True`
`isalnum()`	If the string consists of alphanumeric characters	`"Hello123".isalnum()`	`True`
`isalpha()`	If the string consists of only alphabetic characters	`"Hello".isalpha()`	`True`
`isdigit()`	If the string consists of only digits	`"12345".isdigit()`	`True`
`islower()`	If all alphabetic characters in the string are lowercase	`"hello".islower()`	`True`
`isupper()`	If all alphabetic characters in the string are uppercase	`"HELLO".isupper()`	`True`
`isspace()`	If the string consists only of whitespace characters	`" ".isspace()`	`True`
`startswith()`	If the string starts with the specified prefix	`"Hello".startswith("H")`	`True`
`endswith()`	If the string ends with the specified suffix	`"Hello".endswith("o")`	`True`
`isdecimal()`	If the string consists of only decimal characters	`"12345".isdecimal()`	`True`

These methods are commonly used in data validation, string manipulation, and type checking in Python.