



# **Introductory Programming Using Python String Manipulation**

## **Extra Resources**

# Overview of String Methods

- ▶ Review the online resource “Python Strings” at link [http://www.tutorialspoint.com/python/python\\_strings.htm](http://www.tutorialspoint.com/python/python_strings.htm) focusing on the following sections:
  - Accessing values in strings
  - Updating strings
  - String special operators
  - Built-in strings methods.
- ▶ Review the python documentation “4.1.7 String methods” at <https://docs.python.org/3/library/stdtypes.html#string-methods>

# Overview of String Methods

- ▶ This lesson will be covering some of the built-in String methods:

- isupper
- islower
- isalpha
- isdigit
- count
- startswith
- endswith

## Checking/Validating a String

◦ ... ..

- upper
- lower
- replace
- split

## Modifying a String

◦ ... ..

# String Methods – isupper, islower

Are all characters in upper case?

```
1 text = "How Are You"
2 result = text.isupper()
3 print(result)
```

Debug I/O Python Shell

Commands execute without debug. Use arrow keys for history.

```
2.7.3 (default, Apr 10 2012, 23:54:05)
Python Type "help", "copyright" and "credits"
[evaluate String_Functions.py]
False
```

>>>

Are all characters in lower case?

```
1 text = "How Are You"
2 result = text.islower()
3 print(result)
```

Debug I/O Python Shell

Commands execute without debug. Use arrow keys for history.

```
2.7.3 (default, Apr 10 2012, 23:54:05)
Python Type "help", "copyright" and "credits"
[evaluate String_Functions.py]
False
```

>>>

```
1 text = "HOW ARE YOU"
2 result = text.isupper()
3 print(result)
```

Debug I/O Python Shell

Commands execute without debug. Use arrow keys for history.

```
2.7.3 (default, Apr 10 2012, 23:54:05)
Python Type "help", "copyright" and "credits"
[evaluate String_Functions.py]
True
```

>>>

```
1 text = "how are you"
2 result = text.islower()
3 print(result)
```

Debug I/O Python Shell

Commands execute without debug. Use arrow keys for history.

```
2.7.3 (default, Apr 10 2012, 23:54:05)
Python Type "help", "copyright" and "credits"
[evaluate String_Functions.py]
True
```

>>>

# String Methods – isalpha, isdigit

Does the String contain only letters(A to Z) ?  
Space is not a letter.

```
1 text = "How Are You"
2 result = text.isalpha()
3 print(result)
```

Debug I/O Python Shell

Commands execute without debug. Use arrow keys

2.7.2 (default, Jun 12 2015, 22:03:12)  
Python Type "help", "copyright", "credits" and "license()">  
[evaluate String\_Function]  
False

```
1 text = "HowAreYou"
2 result = text.isalpha()
3 print(result)
```

Debug I/O Python Shell

Commands execute without debug. Use arrow keys

2.7.2 (default, Jun 12 2015, 22:03:12)  
Python Type "help", "copyright", "credits" and "license()">  
[evaluate String\_Function]  
True

Does the String contain only numbers?

```
1 text = "How Are You"
2 result = text.isdigit()
3 print(result)
```

Debug I/O Python Shell

Commands execute without debug. Use arrow keys

2.7.2 (default, Jun 12 2015, 22:03:12)  
Python Type "help", "copyright", "credits" and "license()">  
[evaluate String\_Function]  
False

```
1 text = "9999999"
2 result = text.isdigit()
3 print(result)
```

Debug I/O Python Shell

Commands execute without debug. Use arrow keys

2.7.2 (default, Jun 12 2015, 22:03:12)  
Python Type "help", "copyright", "credits" and "license()">  
[evaluate String\_Function]  
True

# String Method – count

## Python built-in function - len

Find the length, including the space

```
1 text = "How Are You"  
2 result = len(text)  
3 print(result)  
.
```

Debug I/O Python Shell

Commands execute without debug. Use arrow keys for history.

```
2.7.3 (default, Apr 10 2012, 23:54:48)  
Python Type "help", "copyright", "credits()"  
[evaluate String_Functions.py]
```

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>>>

Count the occurrence of character "o"

```
1 text = "How Are You"  
2 result = text.count("o")  
3 print(result)  
.
```

Debug I/O Python Shell

Commands execute without debug. Use arrow keys for history.

```
2.7.3 (default, Apr 10 2012, 23:54:48)  
Python Type "help", "copyright", "credits()"  
[evaluate String_Functions.py]
```

2

>>>



# String Methods – startswith, endswith

Does the String start with character "H"?

```
1 text = "How Are You"
2 result = text.startswith("H")
3 print(result)
```

Debug I/O Python Shell

Commands execute without debug. Use arrow keys for history.

```
2.7.3 (default, Apr 10 2012, 23
Python Type "help", "copyright"
[evaluate String_Functions.py]
True
```

>>>

Does the String end with character "u"?

```
1 text = "How Are You"
2 result = text.endswith("u")
3 print(result)
```

Debug I/O Python Shell

Commands execute without debug. Use arrow keys for history.

```
2.7.3 (default, Apr 10 2012, 23
Python Type "help", "copyright"
[evaluate String_Functions.py]
True
```

>>>

# String Methods – upper, lower

## Convert all characters to upper case

```
1 text = "How Are You"
2 result = text.upper()
3 print(result)
```

Debug I/O

Python Shell

Commands execute without debug. Use arrow keys for history.

```
2.7.3 (default, Apr 10 2012, 23
Python Type "help", "copyright"
[evaluate String_Functions.py]
```

HOW ARE YOU

>>>

## Convert all characters to lower case

```
1 text = "How Are You"
2 result = text.lower()
3 print(result)
```

Debug I/O

Python Shell

Commands execute without debug. Use arrow keys for history.

```
2.7.3 (default, Apr 10 2012, 23
Python Type "help", "copyright"
[evaluate String_Functions.py]
```

how are you

>>>



# String Methods – split, replace

You can convert a String to a List with the Split function.

**Split the String by character “A” and return a List**

```
1 text = "How Are You"
2 result = text.split("A")
3 print(result)
```

Debug I/O Python Shell

Commands execute without debug. Use arrow keys for history.

```
2.7.3 (default, Apr 10 2012, 23:3
Python Type "help", "copyright",
[evaluate String_Functions.py]
['How ', 're You']
>>>
```

**Return a List**

**Replace the character “o” with “?”**

```
1 text = "How Are You"
2 result = text.replace("o", "?")
3 print(result)
```

Debug I/O Python Shell

Commands execute without debug. Use arrow keys for history.

```
2.7.3 (default, Apr 10 2012, 23:3
Python Type "help", "copyright",
[evaluate String_Functions.py]
H?w Are Y?u
>>>
```