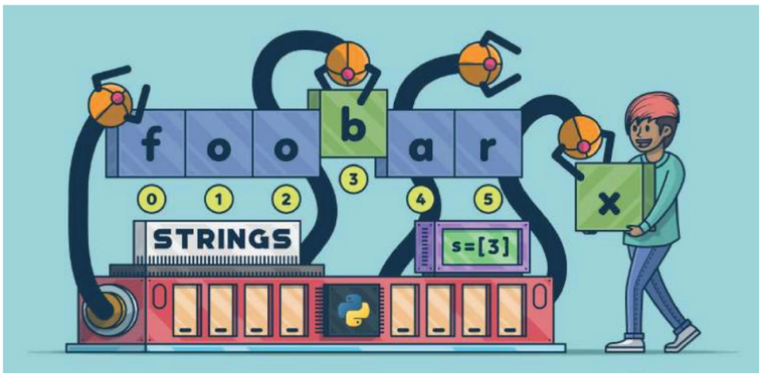
Day 3

Python for Data Science

Strings




```
# Employ double quotation marks for describing a string
"Hello World!"
```

```
'Hello World!'
```

```
# Employ single quotation marks for describing a string
'Hello World!'
```

```
'Hello World!'
```

Indexing of a String

```
# printi ng the first element in a string
message = 'Hello World!'
print(message[0])
```

```
H
```

```
# Printi ng the element on index 8 in a string
print(message[8])
```

```
r
```

```
# lenght of a string includign spaces
len(message)
```

```
12
```

Negative indexing of a string

```
# printi ng the last element of a string
message[-1]
```

```
'!'
```

```
# printi ng the first element of a string
message[-12]

# Since the negative indexing starts with -1, in this case, the
negative index number
# of the first element is equal to -12.
```

```
'H'
```

```
len('Hello World!')
```

```
12
```

Slicing of a String

```
# Slicing on the variable 'message' with only index 0 to index 5
message[0:5]
```

```
'Hello'
```

```
# Slicing on the variable 'message' with only index 6 to index 12
message[6:12]
```

```
'World!'
```

Striding in a String

```
# to select every second element in the variable 'message'
message[::2]
```

```
'HloWrd'
```

```
# corporation of slicing and striding
# get every second element in range from index 0 to index 6
message[0:6:2]
```

```
'Hlo'
```

Concatenate of String

```
message = 'Hello World!'
question = 'How many people are living on the earth?'
statement = message+question
statement
```

```
'Hello World!How many people are living on the earth?'
```

```
# printi ng a string for 4 times
4*" Hello World!"
```

```
' Hello World! Hello World! Hello World! Hello World!'
```

Escape sequences

```
# New line escape sequence
print('Hello World! \nHow many people are living on the earth?')
```

```
Hello World!
How many people are living on the earth?
```

```
# Tab escape sequence
print('Hello World! \tHow many people are living on the earth?')
```

```
Hello World!    How many people are living on the earth?
```

```
# back slash in a string
print('Hello World! \\ How many people are living on the earth?')
# r will say python that a string will be show as a raw string
print('Hello World! \ How many people are living on the earth?')
```

```
Hello World! \ How many people are living on the earth?
Hello World! \ How many people are living on the earth?
```

String Operations

```
message = 'hello python!'
print('Before uppercase: ', message )
# convert uppercase the elements in a string
message_upper = message.upper()
print('Aft er uppercase: ', message_upper)
# convert lowercase the elements in a string
message_lower = message.lower()
print('Again lowercase: ', message_lower)
# convert first lett er of string to uppercase
message_title = message.title()
print('The first element of the string is uppercase: ', message_ti-
tle)
```

```
Before uppercase: hello python!
Aft er uppercase: HELLO PYTHON!
Again lowercase: hello python!
The first element of the string is uppercase: Hello Python!
```

```
# replace() method in a string
message = 'Hello Python!'
message_hi = message.replace('Hello', 'Hi')
message_python = message.replace('Python', 'World')
print(message_hi)
print(message_python)
```

```
Hi Python!
Hello World!
```

```
# find() method applicati on in a string
message = 'Hello World!'
print(message.find('Wo'))
# the output is the index number of the first element of the sub-
string
```

```
# find() method applicati on to obtain a substring in a string
message.find('World!')
```

```
6
```

```
text = 'Hi, I am Nancy Working in Xyz.com'
# find the first index of the substring 'Nancy'
text.find('Nancy')
```

```
9
```

```
# replace the substring 'Nancy' with 'Nancy Lier Cosgrove Mullis'
text.replace('Nancy', 'Nancy Lier Cosgrove Mullis')
```

```
'Hi, I am Nancy Lier Cosgrove Mullis Working in Xyz.com'
```

```
# convet the text to lower case
text.lower()
```

```
'hi, i am nancy working in xyz.com'
```

```
# convert the first lett er of the text to capital lett er
text.capitalize()
```

```
'Hi, i am nancy working in xyz.com'
```

```
# casefold() method returns a string where all the characters are
in lower case
text.casefold()
```

```
'hi, i am nancy working in xyz.com'
```

```
# count() method returns the number of elements with the specified
value
text.count('in')
```

```
2
```

```
# format() method
"""
The format() method formats the specified value(s) and insert them
inside the string's placeholder.
The placeholder is defined using curly brackets: {}.
"""
txt = "Hello {word}"
print(txt.format(word = 'World!'))
message1 = 'Hi, My name is {} and I am {} years old.'
print(message1.format('Bob', 36))
message2 = 'Hi, My name is {name} and I am {number} years old.'
print(message2.format(name ='Bob', number = 36))
message3 = 'Hi, My name is {0} and I am {1} years old.'
print(message3.format('Bob', 36))
```

```
Hello World!
Hi, My name is Bob and I am 36 years old.
Hi, My name is Bob and I am 36 years old.
Hi, My name is Bob and I am 36 years old.
```