

# Strings

1) A string is a list of characters. We declare a string by using double quotes (" "). Have a go at printing these strings:

- a) **print("Hello world!")**
- b) **print("I am another string")**
- c) **print("You can put nearly anything you like in a string")**
- d) **print("But some characters like the " require special care")**

2) What happened in 1) d) ? The quotation is used to begin and end a string, but what if we want to use in inside the string? To do this we need to precede it with a backslash \. Try it!

```
>>> print("I can use a \" in a string!")  
I can use a " in a string!
```

Use the **print()** command to display the following strings

- a) Coding is fun
- b) Coding "is" fun
- c) "Welcome" the sign read, as we entered the rundown mansion.
- d) "Hi Emily," I said. "How was your day?"

3) We can even join strings using the (+) operator. Try it!

```
>>> print("Hello " + "World")
```

Notice the space at the end of the first string. If we didn't have that, the words would run together and you'll end up with HelloWorld.

4) We can also repeat a string using the (\*) operator. Try this:

```
>>> print("bouncy, " * 10)
```

5) In the python shell, assign these string to the following variables:

```
>>> str_1 = "I want the "
>>> str_2 = "bouncy "
>>> str_3 = "ball"
```

Here we use str which is short for string. Now, using the (+) and (\*) operators, write a print command that will display the following text. The first is done for you.

a) I want the ball

Answer: **print(str\_1 + str\_3)**

b) bouncy ball

c) I want the bouncy ball

d) I want the bouncy bouncy ball

e) I want the bouncy bouncy bouncy bouncy bouncy ball

## Indexing and slicing strings

The index of a string is a position compared to the rest. Different programming languages start indexing or counting at either 1 or 0. In Python, we start indexing/counting with 0. To slice a string is to take a portion of it from the front, middle or end.

```
pizza = "Hawaiian"
```

| Position          | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|-------------------|---|---|---|---|---|---|---|---|
| String characters | H | a | w | a | i | i | a | n |

The syntax to index a string is **variable[position]**. Example:

`pizza[4]`                      output: \_\_\_\_\_

If we want to index a group of characters in a string, we can use the colon ( : ). Example:

`pizza[2:5]`                      output: \_\_\_\_\_

You can also check the length of a string! The syntax is **len(variable)**.

`len(pizza)`                      output: \_\_\_\_\_

1. Match the code with the correct output by drawing a line.

| CODE                    | OUTPUT   |
|-------------------------|----------|
| <code>pizza[0]</code>   | wa       |
| <code>pizza[:5]</code>  | a        |
| <code>pizza[0:2]</code> | Hawai    |
| <code>"pizza[6]"</code> | Hawaiian |
| <code>pizza</code>      | H        |
| <code>pizza[6]</code>   | aiian    |
| <code>pizza[2:4]</code> | pizza[6] |
| <code>pizza[3:]</code>  | Ha       |
| <code>pizza[-1]</code>  | n        |

2. Write a program to ask the user for their full name and output the following:

- The whole name
- The first character
- The first 5 characters
- The fourth, fifth and sixth characters
- The last character.

Let's start off together:

```
fullname = input("What is your full name? ")

print(fullname[ #.....you do the rest!
```

## Concatenating strings

This means joining multiple strings together. The syntax to concatenate strings in Python is a + (plus symbol).

```
sweet = "chocolate"
fruit = "strawberry"
```

Let's do some examples together.

|   |               |
|---|---------------|
| <code>print(sweet + fruit)</code>               | output: _____ |
| <code>print(sweet + " " + fruit)</code>         | output: _____ |
| <code>print(sweet + "_covered_" + fruit)</code> | output: _____ |

3. Assign variables greeting and name to the strings below. Then match the code with the correct output by drawing a line.

```
greeting = "Hello"
name = "Molly"
```

| CODE   | OUTPUT      |
|--|-------------|
| <code>print(greeting + name)</code>          | ERROR       |
| <code>print(greeting + " " + name)</code>    | Hi Molly    |
| <code>print("Hi " + name)</code>             | Molly Molly |
| <code>print(Hi + name)</code>                | HelloMolly  |
| <code>print(name + " " + name)</code>        | MollyMolly  |
| <code>print(name * 2)</code>                 | Hello M     |
| <code>print(greeting + " " + name[0])</code> | Hello Molly |

4. Create a program which asks for a **name**, **age**, **favorite TV show or book** and output a sentence with all the output.

Let's start it off together:

```
name = input("What is your name? ")  
age = input("How old are you? ")  
fav_TV_book = #... Try it out and finish the rest of the program!
```

#Print a sentence that includes all three variables! For example, the output could look like this:  
"Priya is 30 years old and loves Friends."