

## Welcome to Python!

**Python** is a high-level programming language, with applications in numerous areas, including web programming, scripting, scientific computing, and artificial intelligence.

Python is processed at runtime by the interpreter. There is no need to compile your program before executing it.

Python has several different implementations, written in various languages. The version used in this course, **CPython**, is the most popular by far.

An interpreter is a program that runs scripts written in an interpreted language such as Python.

A Compiler is computer software that transforms computer code written in one programming language (the source language) into another programming (the target language)...A program that translates between high-level languages is usually called a source-to-source compiler or transpiler.

A scripting or script language is a **programming** language that supports **scripts** — programs written for a special run-time environment that automate the execution of tasks that could alternatively be executed one-by-one by a human operator. **Scripting** languages are often interpreted (rather than compiled).

## Your First Program

Let's start off by creating a short program that displays "Hello world!". In Python, we use the **print** statement to output text:

```
>>> print('Hello world!')
```

```
Hello world!
```

Congratulations! You have written your first program.

When using a computer, you will need to download and install Python from [www.python.org](http://www.python.org). Note the >>> in the code above. They are the prompt symbol of the Python console. Python is an interpreted language, which means that each line is executed as it is entered. Python also includes IDLE, the integrated development environment, which includes tools for writing and debugging entire programs.

## Printing Text

The **print** statement can also be used to output multiple lines of text.

### For Example:

```
>>> print('Hello world!')
Hello world!
>>> print('Spam and eggs...')
Spam and eggs...
```

Python code often contains references to the comedy group **Monty Python**. This is why the words, "spam" and "eggs" are often used as placeholder variables in Python where "foo" and "bar" would be used in other programming languages.