

This is why I commit to Python and rely on it to help me succeed.

Python programs can be run from the command line of a Unix box using the `'python3'` command. The command `'python'` simply needs to be followed by the path of the program.

Python [supports Unix-style I/O](#) (stdin, stdout) with its built-in `'input'` and `'print'` methods. The functions `'input'` and `'sys.stdin.read'` for stdin, `'print'` write to `'sys.stdout'` unless a file is given as a parameter.

Python supports reading, processing, and printing JSON using the `'json'` package. The function `'json.dumps'` converts corresponding Python objects into JSON strings. Together with `'print'`, Python can easily print JSON. We can also read and process JSON by using `'json.loads'` and `'json.load'` which converts a json input to a corresponding python object.

Python supports TCP/IP sockets using the `'sys'` and `'socket'` libraries. The `'sys'` library can be used to print errors from `'stderr'` for better readability of what is going on with each socket. By default, socket objects created using `'socket.socket'` use TCP/IP. The command `'sock.bind'` associates the socket with the server address and `'sock.accept'` returns an open connection between the server and client.

Python supports dynamic code loading using the `'importlib'` library. By calling the `'import_module'` method in the `'importlib'` library, we can specify the module we want to load based on a user-defined string.

Python comes with a unit testing framework using the `'unittest'` library. Unit testing through this library can be organized into `'assert'` statements, `'TestCase's` and finally `'TestSuite's`.

Random testing facilities are supported by a number of python libraries. Three libraries that we found were `'random'`, `'Faker'`, and `'Hypothesis'`. These three allow us to generate test cases with random numbers, colors, and addresses, and also allows us to utilize property-based testing. The `'random'` library generates individual random numbers, random numbers within a range, and numbers on a distribution. The `'Faker'` library connects to providers which generate common real-world random data such as names, music, and addresses. The `'Hypothesis'` library is great for testing edge cases: you specify an invariant for a function and run it against a wide range of data matching the input type.

[Pycharm](#) is a good IDE for Python that supports debugging, refactoring, testing support, easy version control, code inspection, and code completion.

Python comes with a [REPL](#), which is the python interactive shell that pops up when you type `'python'` in a terminal instance. It can read user input, evaluate whatever was typed by the user, print the corresponding results, and loop/return back to reading user input.

Python can organize/handle modules and packages through `'Modules'`. Python files interact with packages and modules using `'import'` statements. Additionally, `'sys.path'` variable can be used to specify the location in which to search for packages.