## Glossary

## IT Automation with Python

## **Terms and definitions from Course 2**

## A

**Absolute path:** A full path to the resource in the file system

**Alteration:** RegEx that matches any one of the alternatives separated by the pipe symbol

**Automatic testing:** A process where software checks itself for errors and confirms that it works correctly

## B

**Backreference:** This is applied when using re.sub() to substitute the value of a capture group into the output

**Bash:** The most commonly used shell on Linux

**Bash script:** A script that contains multiple commands

**Black-box tests:** A test where there is an awareness of what the program is supposed to do but not how it does it

## C

**Character classes:** These are written inside square brackets and let us list the characters we want to match inside of those brackets

**Character ranges:** Ranges used to match a single character against a set of possibilities

**Comma separated values (CSV):** A very common data format used to store data as segment of text separated by commas

**Command line arguments:** Inputs provided to a program when running it from the command line

**Compiled or compiled language:** Supportable code that can be executed on different platforms

**Cut:** A command that can split and take only bits of each line using spaces

## D

**Dialects:** Rules that define how a CSV file is structured

## E

**Edge cases:** Inputs to code that produce unexpected results, found at the extreme ends of the ranges of input

**Environment variables:** Settings and data stored outside a program that can be accessed by it to alter how the program behaves in a particular environment

## F

**File systems:** Methods and structures used to organize and control how data is stored and accessed

## G

**Globs:** Characters that create list of files, like the star and question mark

**grep:** An especially easy to use yet extremely powerful tool for applying RegExes

## I

**Input / Output (I/O):** These streams are the basic mechanism for performing input and output operations in your programs

**Integrated Development Environment (IDE):** A code editor with extra capabilities to simplify script writing

**Interpreter or interpreted language:** An intermediary program used to execute the instructions specified in the code

## K

**Kernel:** The main core of an operating system that talks directly to hardware and manages the system’s resource

## L

**Linux:** An open source operating system where the software is free to share, modify, and distribute

**Log files:** Log files are records or text files that store a history of events, actions, or errors generated by a computer system, software, or application for diagnostic, troubleshooting, or auditing purposes

**Lookahead:** RegEx that matches a pattern only if it’s followed by another pattern

## M

**Mac OS:** Operating system developed by Apple

**Mode:** The format controlling what you can do with a recently opened file

## O

**Operating system (OS):** Software that manages everything that goes on in the computer, composed of two main parts: the kernel and the user space

## P

**Pipes:** A process of connecting the output of one program to the input of another

**Piping:** A process of connecting multiple scripts, commands, or other programs together into a data processing pipeline

**Pytest:** A powerful Python testing tool that assists programmers in writing more effective and stable programs

## Q

**Qwiklabs:** An online learning environment or virtual machine to simulate real-world scenarios

## R

**Reader objects:**  Object that represents an element or entity within a scene that needs to be rendered to the screen

**Redirection:** A process of sending a stream to a different destination

**Regular expression:** A search query for text that's expressed by string pattern, also known as RegEx or RegExp

**Relative path:** A portion of a path to show where the resource is located in relation to the current working directory

## S

**Signals:** Tokens delivered to running processes to indicate a desired action

**Software testing:** A process of evaluating computer code to determine whether or not it does what is expected

**Standard input stream commonly (STDIN):** A channel between a program and a source of input

**Standard output stream (STDOUT):** A pathway between a program and a target of output, like a display

**Standard error (STDERR):** This displays output like standard out, but is used specifically as a channel to show error messages and diagnostics from the program

**Shell:** The application that reads and executes all commands

**Subprocesses:** A process to call and run other applications from within Python, including other Python scripts

## T

**Test case:** This is the individual unit of testing that looks for a specific response to a set of inputs

**Test fixture:** This prepared to perform one or more tests

**Test suite:** This is used to compile tests that should be executed together

**Test runner:** This runs the test and provides developers with the outcome’s data

## U

**unittest:** A set of Python tools to construct and run unit tests

**Unit tests:** A test to verify that small isolated parts of a program work correctly

**User space:** Everything outside of the kernel that users interact with directly

## V

**Virtual environment:** A tool that allows you to create isolated environments for your Python projects

**Virtual machine (VM):** A computer simulated through software

## W

**White-box test:** A test where test creator knows how the code works and can write test cases that use the understanding to make sure it performs as expected

**Wildcard:** A character that can match more than one character

**Windows OS:** Operating system developed by Microsoft

**Writer objects:** The capability to write data to a CSV file