## Glossary

## IT Automation with Python

## **Terms and definitions from Course 4**

## A

**Activity monitor:** Mac OS tool that shows what's using the most CPU, memory, energy, disk, or network

## B

**Bandwidth:** How much data can be sent or received in a second

**Binary search:** A search algorithm used to find a specific item in a sorted list or array by repeatedly dividing the search space in half until the desired item is found or determined to be absent

**Bisecting:** Dividing in two, also a Git command

**Breakpoints:** Debugging features that lets code run until a certain line of code is executed

## C

**Cache:** This stores data in a form that's faster to access than its original form

**Centralized logs collection:** This means there's a special server that gathers all the logs from all the servers, or even all computers in the network

**Communications lead:** The lead person who needs to receive timely important communication updates

**Core files:** Files that store all the information related to the crash to debug the issue

## D

**Debuggers:** Tools that follow the code line by line, inspect changes in variable assignments, interrupt the program when a specific condition is met, and more

**Debugging:** The process of identifying, analyzing, and removing bugs in the actual code of a system in the application

**Decorator:** Used in Python to add extra behavior to functions without having to modify the code

## E

**Executor:** This is the process that's in charge of distributing the work among the different workers

**Exhausted:** When resources are used completely and programs are getting blocked by not having more access to those resources

**Expensive actions:** Actions that can take a long time to complete

## F

**Futures:** A module provides a couple of different executors, one for using threads and the other one for using processes

## G

**Garbage collector:** A tool in charge of freeing the memory that's no longer in use

## I

**Incident commander** (incident controller): The person who needs to look at the big picture and decide what's the best use of the available resources

## L

**Latency:** The delay between sending a byte of data from one point and receiving it on the other

**Linear search:** The process of searching each line of data until the desired data entry is located

**Lists:** Sequences of elements

## M

**Memory leak:** This happens when a chunk of memory that's no longer needed is not released

**Memory profiler:** A tool used to figure out how the memory is being used

## O

**Observer effect:** The idea that observing a phenomenon alters the phenomenon

## P

**Pointers:** The variables that store memory addresses

**Postmortems:** Documents that describe details of incidents to learn from mistakes

**Profiler:** A tool that measures the resources the code is using to see how the memory is allocated and how the time is spent

## R

**Real time:** The amount of actual time that it took to execute the command

**Reproduction case:** A clear description of how and when the problem appears, a way to verify if the problem is present or not

**Resource Monitor** (or Performance Monitor): Windows OS tool that shows what's using the most CPU, memory, energy, disk, or network

## S

**Swap:** A space in the hard drive where the operating system puts the parts of the memory that aren't currently in use

**Sys time:** The time spent doing system level operations

**System calls:** The calls that the programs running on our computer make to the running kernel

## T

**Technical debt:** The pending work that accumulates when a quick-and-easy solution is applied instead of a sustainable long-term one

**Threads:** Run parallel tasks inside a process

**Traffic shaping:** This is a way of marking the data packets sent over the network with different priorities, to avoid having huge chunks of data use all of the bandwidth

**Troubleshooting:** The process of solving any kind of problem in the system running the application

## U

**Undefined behavior:** The code is doing something that's not valid in that programming language

**User time:** The time spent doing operations in the user space

## V

**Valgrind:** A powerful tool that can tell if the code is doing any invalid operations, no matter if it crashes or not

## W

**Watchdog:** This is another process that checks whether a program is running and, when it's not, starts the program again

**Wrapper:** A function or program that provides a compatibility layer between two functions or programs, so that they can work well together