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