# Reference guide: Python concepts from module 4

## Google Cybersecurity Certificate

## Sections

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## File operations

The following functions, methods, and keywords are used with operations involving files.

### with

Handles errors and manages external resources

#### with open("logs.txt", "r") as file:

Used to handle errors and manage external resources while opening a file; the variable file stores the file information while inside of the with statement; manages resources by closing the file after exiting the with statement

### open()

Opens a file in Python

with open("login\_attempts.txt", "r") as file:

Opens the file "login\_attempts.txt" in order to read it ("r")

with open("update\_log.txt", "w") as file:

Opens the file "update\_log.txt" into the variable file in order to write over its contents ("w")

with open(import\_file, "a") as file:

Opens the file assigned to the import\_file variable into the variable file in order to append information to the end of it ("a")

### as

Assigns a variable that references another object

with open("logs.txt", "r") as file:

Assigns the file variable to reference the output of the open() function

### .read()

Converts files into strings; returns the content of an open file as a string by default

with open("login\_attempts.txt", "r") as file:

file\_text = file.read()

Converts the file object referenced in the file variable into a string and then stores this string in the file\_text variable

### .write()

Writes string data to a specified file

with open("access\_log.txt", "a") as file:

file.write("jrafael")

Writes the string "jrafael" to the "access\_log.txt" file; because the second argument in the call to the open() function is "a", this string is appended to the end of the file

## Parsing

The following methods are useful when parsing data.

### .split()

Converts a string into a list; separates the string based on the character that is passed in as an argument; if an argument is not passed in, it will separate the string each time it encounters whitespace characters such as a space or return

approved\_users = "elarson,bmoreno,tshah".split(",")

Converts the string "elarson,bmoreno,tshah" into the list ["elarson","bmoreno","tshah"] by splitting the string into a separate list element at each occurrence of the "," character

removed\_users = "wjaffrey jsoto abernard".split()

Converts the string "wjaffrey jsoto abernard" into the list ["wjaffrey","jsoto","abernard"] by splitting the string into a separate list element at each space

### .join()

Concatenates the elements of an iterable into a string; takes the iterable to be concatenated as an argument; is appended to a character that will separate each element once they are joined into a string

approved\_users = ",".join(["elarson", "bmoreno", "tshah"])

Concatenates the elements of the list ["elarson","bmoreno","tshah"] into the string "elarson,bmoreno,tshah" , separating each element with the "," character within the string