Reference guide: Python concepts from module 2

Google Cybersecurity Certificate

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User-defined functions

The following keywords are used when creating user-defined functions.

def

Placed before a function name to define a function

```
def greet_employee():
Defines the greet_employee() function

def calculate_fails(total_attempts, failed_attempts):
Defines the calculate_fails() function, which includes the two parameters
of total attempts and failed attempts
```

return

Used to return information from a function; when Python encounters this keyword, it exits the function after returning the information

```
def calculate_fails(total_attempts, failed_attempts):
    fail_percentage = failed_attempts / total_attempts
    return fail_percentage

Returns the value of the fail_percentage variable from the
calculate_fails() function
```

Built-in functions

The following built-in functions are commonly used in Python.

max()

Returns the largest numeric input passed into it

```
print(max(10, 15, 5))
```

Returns 15 and outputs this value to the screen

min()

Returns the smallest numeric input passed into it

```
print(min(10, 15, 5))
```

Returns 5 and outputs this value to the screen

sorted()

Sorts the components of a list (or other iterable)

```
print(sorted([10, 15, 5]))
```

Sorts the elements of the list from smallest to largest and outputs the sorted list of [5, 10, 15] to the screen

```
print(sorted(["bmoreno", "tshah", "elarson"]))
```

Sorts the elements in the list in alphabetical order and outputs the sorted list of ["bmoreno", "elarson", "tshah"] to the screen

Importing modules and libraries

The following keyword is used to import a module from the Python Standard Library or to import an external library that has already been installed.

import

Searches for a module or library in a system and adds it to the local Python environment

```
import statistics
Imports the statistics module and all of its functions from the Python
Standard Library
```

```
from statistics import mean
Imports the mean() function of the statistics module from the Python
Standard Library
```

```
from statistics import mean, median
Imports the mean() and median() functions of the statistics module from
the Python Standard Library
```

Comments

The following syntax is used to create a comment. (A comment is a note programmers make about the intention behind their code.)

#

Starts a line that contains a Python comment

```
# Print approved usernames
```

Contains a comment that indicates the purpose of the code that follows it is to print approved usernames

""" (documentation strings)

Starts and ends a multi-line string that is often used as a Python comment; multi-line comments are used when you need more than 79 characters in a single comment

** ** **

The estimate_attempts() function takes in a monthly login attempt total and a number of months and returns their product.

Contains a multi-line comment that indicates the purpose of the estimate attempts() function