Reference guide: Python concepts from module 1

This reference guide contains Python language introduced during module 1. The guide is organized into the following sections:

- Comments
- Functions
- Conditional statements
- Iterative statements

Within each section, items generally appear in the order they were introduced.

Google Cybersecurity Certificate

Sections
Comments
Functions
Conditional statements
Iterative statements
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

Functions
The following functions are commonly used in Python.
print()
Outputs a specified object to the screen

```
print("login success")
```
Outputs the string "login success" to the screen

print(9 < 7)
Outputs the Boolean value of False to the screen after evaluating whether the integer 9 is less than the integer 7

type()
Returns the data type of its input

```
print(type(51.1))
```

Returns the data type of float for the input of 51.1

```
print(type(True))
```

Returns the data type of Boolean for the input of True
range()
Generates a sequence of numbers

```
range(0, 5, 1)
```

Generates a sequence with a start point of 0, a stop point of 5, and an increment of 1; because the start point is inclusive but the stop point is exclusive, the generated sequence is 0, 1, 2, 3, and 4

```
range(5)
```

Generates a sequence with a stop point of 5; when the start point is not specified, it is set at the default value of 0, and when the increment is not specified, it is set at the default value of 1; the generated sequence is 0, 1, 2, 3, and 4

Conditional statements
The following keywords and operators are used in conditional statements.
if
Starts a conditional statement

```
if device_id != "la858zn":
```

Starts a conditional statement that evaluates whether the device_id variable contains a value that is not equal to "la858zn"

```
if user in approved_list:
```

Starts a conditional statement that evaluates if the user variable contains a value that is also found in the approved_list variable
elif
Precedes a condition that is only evaluated when previous conditions evaluate to False; previous conditions include the condition in the if statement, and when applicable, conditions in other elif statements

```
elif status == 500:
```

When previous conditions evaluate to False, evaluates if the status variable contains a value that is equal to 500
else
Precedes a code section that only evaluates when all conditions that precede it within the conditional statement evaluate to False; this includes the condition in the if statement, and when applicable, conditions in elif statements

```
else:
```

When previous conditions evaluate to False, Python evaluates this else statement

and
Requires both conditions on either side of the operator to evaluate to True

```
    if username == "bmoreno" and login_attempts < 5:
```

Evaluates to True if the value in the username variable is equal to "bmoreno" and the value in the login_attempts variable is less than 5
or
Requires only one of the conditions on either side of the operator to evaluate to True

```
    if status == 100 or status == 102:
```

Evaluates to True if the value in the status variable is equal to 100 or the value in the status variable is equal to 102
not
Negates a given condition so that it evaluates to False if the condition is True and to True if it is False

```
    if not account_status == "removed"
```

Evaluates to False if the value in the account_status variable is equal to "removed" and evaluates to True if the value is the account_status variable is not equal to "removed"
Iterative statements
The following keywords are used in iterative statements.
for
Signals the beginning of a for loop; used to iterate through a specified sequence

```
    for username in ["bmoreno", "tshah", "elarson"]:
```

Signals the beginning of a for loop that iterates through the sequence of elements in the list ["bmoreno", "tshah", "elarson"] using the loop variable username

```
for i in range(10):
```

Signals the beginning of a for loop that iterates through a sequence of numbers created by range(10) using the loop variable i
while
Signals the beginning of a while loop; used to iterate based on a condition

```
    while login_attempts < 5:
```

Signals the beginning of a while loop that will iterate as long as the condition that the value of login_attempts is less than 5 evaluates to True
break
Used to break out of a loop
continue
Used to skip a loop iteration and continue with the next one

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