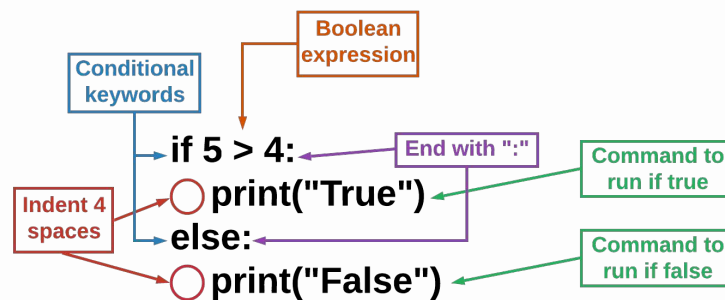# Learning Objectives - If Else Statement

- **Explain the difference between an if statement and an if else statement**

- **Describe if else statement syntax**

If Else Statement Syntax

If Else Syntax

The if else statement checks to see if a condition is true, and then has specific actions that take place. But it also provides a specific set of actions if the boolean expression is false. Use the `else` keyword to introduce the code to run when false. Notice, `else` is aligned with the `if` keyword (no indentation) and has a `:`. You do not write another boolean expression with `else`.

If Else Syntax

```python
if 5 > 4:
    print("The boolean expression is true")
else:
    print("The boolean expression is false")
```

challenge

What happens if you:

- Change 4 to 6?
- Indent the `else` statement four spaces?

If Else Statement

If Else Statement

The if else statement is used when you want something to specific to happen if the boolean expression is true and if you want something else to happen if it is false.

```python
my_bool = True

if my_bool:
    print("The value of my_bool is true")
else:
    print("The value of my_bool is false")
```

challenge

What happens if you:

- Change the value of `my_bool` to `False`?
- Change the value of `my_bool` to `not True and not False`?

Odd or Even

You can combine the if else statement with the modulo operator to determine if a number is odd or even:

- Modulo returns the remainder after division is performed
- Calculate the modulo (%) of any number and 2
- If the modulo is 0, then the number is even

```python
num = 4

if num % 2 == 0:
    print(str(num) + " is an even number")
else:
    print(str(num) + " is an odd number")
```

▼ **Refresher:`str`**

The `str` function is used to convert (also called type casting) the value of `num` into a string so that it can be joined (concatenated) with the other string.

challenge

What happens if you:

- Change `num` to `3`?
- Change `num` to `0`?
- Change `num` to `-8`?

Formative Assessment 1

Formative Assessment 2

You want to make your voice assistant (Google Home, Alexa, Siri, etc.) give more helpful weather-based information.