Section Overview

Booleans

What You Will Learn

- Booleans
- Comparators
- Order of Operations
- Code Blocks
- Conditionals

Boolean

- Can only be True or False

Booleans

```
a_boolean = True
the_other_boolean = False
print(a_boolean)
print(the_other_boolean)
```

```
True
False
```

Comparators

Operator	Description
==	Equal to
>	Greater than
>=	Greater than or equal
<	Less than
<=	Less than or equal
!=	Not equal

DEMO

```
>>> 1 == 2
False
>>> 1 > 2
False
>>> 1 >= 2
False
>>> 1 < 2
True
>>> 1 <= 2
True
>>> 1 != 2
True
```

Boolean Operators

Operator	Description
`and`	Evaluates to **True** if both statements are true, otherwise evaluates to **False**.
`or`	Evaluates to **True** if either of the statements is true, otherwise evaluates to **False**.
`not`	Evaluates to the opposite of the statement.

Truth Table

True and True is True

True and False is False

False and True is False

False and False is False

True or True is True

True or False is True

False or True is True

False or False is False

not True is False

not False is True

Demo 2

```
>>> 37 > 29
True
>>> 37 < 40
True
>>> 37 > 29 and 37 < 40
True
>>>

>>> 37 > 29 or 37 < 40
True

>>> 37 > 29
True
```

Order of Operations for Booleans

not

and

or

```
# This is True:
True and False or not False
True and False or True
False or True
```

Controlling the Order of Operations

Anything surrounded by parenthesis is evaluated first and as its own unit.

```
# These are the same:
True and False or not False
(True and False) or (not
False)
```

Conditionals

Conditionals

```
if 37 < 40:
    print('Thirty-seven is less than forty.')
```

```
Thirty-seven is less than forty.
```

Code Blocks

```
Block One
    Block Two
    Block Two
        Block Three
Block One
Block One
```

Code Blocks

```
Block One
  Block Two
  Block Two
    Block Three
Block One
Block One
```

2 Spaces

```
Block One
    Block Two
    Block Two
        Block Three
Block One
Block One
```

4 Spaces

Spacing Problems

```
IndentationError: expected an indented
block
```

The if Statement

```
age = 31
if age >= 35:
    print('You are old enough to be the President.')

print('Have a nice day!')
```

```
Have a nice day!
```

```
age = 31
if age >= 35:
    print('You are old enough to be the President.')
else:
    print('You are not old enough to be the President.')

print('Have a nice day!')
```

```
You are not old enough to be the President.
Have a nice day!
```

```
age = 31
if age >= 35:
    print('You are old enough to be a Senator or the President.')
elif age >= 30:
    print('You are old enough to be a Senator.')
else:
    print('You are not old enough to be a Senator or the
President.')


print('Have a nice day!')
```

```
You are old enough to be a Senator.
Have a nice day!
```

```
age = 99
if age >= 35:
    print('You are old enough to be a Representative, Senator, or the President.')
elif age >= 30:
    print('You are old enough to be a Senator.')
elif age >= 25:
    print('You are old enough to be a Representative.')
else:
    print('You are not old enough to be a Representative, Senator, or the President.')

print('Have a nice day!')
```

You are old enough to be a Representative, Senator, or the President.

Have a nice day!

Section Summary

Summary

- Booleans are either True or False.
- Comparators compare one numeric value with another and result in a boolean.

Summary

- Boolean operators (and, or, not) compare two statements or negate a statement and result in a boolean.
- Use parentheses to control the order of operations.

Summary

- A code block is a section of code at the same level of indentation.
- Conditionals include if, if/else, and if/elif/else.