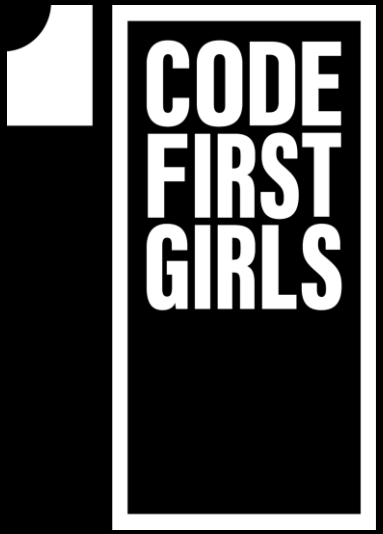
PYTHON

LESSON 3



NANODEGREE → FOUNDATION MODULE

AGENDA

01 Comparison operators

02 Logical operators

03 If Statements

04 Random library

05 Practice

LOGICAL OPERATORS

DEFINITION

- **Boolean:** A data-type that is either `True` or `False`
- **Comparison operator:** compare values to determine whether something is `True` or `False`

Name	Python
Equal to	`==`
Not equal	`!=`
Greater than	`>`
Less than	`<`
Greater than or equal	`>=`
Less than or equal	`<=`

EXAMPLE

This code checks if the user has input `'Monday'` using the `==` operator

```
today = input('What day is it? ')

is_monday = today == 'Monday'

print('Today is Monday: {}'.format(is_monday))
```

COMPARISON OPERATORS

DEFINITION

- There are logical operators to combine multiple checks

EXAMPLE

Python	What it does
and	both expressions are `True`
or	at least one expression is `True`
not	reverse the expression (`True` becomes `False` and vice-versa)

IF STATEMENT

DEFINITION

- **if statement:** used to run a block of code depending on whether a condition is True or False

- The if keyword

- A condition (comparison)

- A colon

- Body (indented four spaces)

EXAMPLE

```
password = input('password: ')

if password == 'jumanji':
    print('Success!')
```

ELIF & ELSE

DEFINITION

- **elif statement:** used after `if` statements to check whether another condition is `True` or `False`

- **else statement:** Used with an `if` statement and will run when the `if` condition is `False`

EXAMPLE

```
if password == 'jumanji':
    print('Success!')
else:
    print('Failure!')
```

RANDOM

PYTHON LIBRARY

- Python has a built-in library for random data
- The randint() function generates a random number between two values
- This program uses randint() to simulate dice with any number of sides

EXAMPLE

```
import random

random_integer =
random.randint(1, 100)

print(random_integer)
```

PRACTICE

PALINDROME CHECK

- This is a very important algorithm that is OFTEN used in tech interviews!
- A palindrome is defined as a string that's written the same forward and backward.
- Note that single-character strings are palindromes
- **Palindrome examples: “hannah”, “abcdcba”, “a”**

THANK YOU!