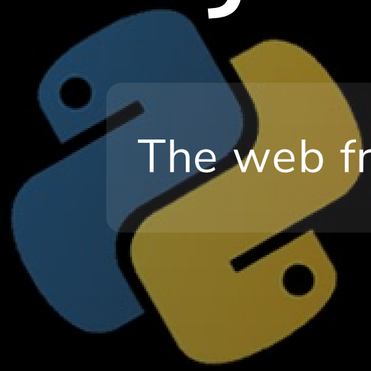
Django

The web framework for perfectionists with deadlines.



Outline

1. Python intro
2. django Basics + models
3. Views, Forms, Templates
4. HTML, CSS, UI.
5. *Bonus #1 Deploying to internet*
6. *Bonus #2 API & react app*

Python basics

Speedrun Python basics

Basic operations (Arithmetic)

```
1 + 2 # Addition

1 - 2 # subtraction

2 * 3 # multiplication

9 / 2 # division

9 // 2 # floor division

2 ** 3 # exponent

5 % 2 # modulus
```

Basic operations (Comparison)

```
2 == 3 #Is it equal?

1 ≠ 2 #Is it NOT equal?

7 < 11 #Is it lesser?

5 > 9 #Is it greater?

67 ⩾ 88 #Is it greater than or equal?

24 ⩽ 666 #Is it lesser than or equal?
```

Basic operations (Logical)

```
(1 < 2) or (3 < 5) #If either of the 2 operations returns true, the final result will also be true

(4 == 3) and (10 ≠ 10) #Both operations need to return true in order for the final result to be true

not (5*3 == 15) #Reversal
```

Variables

```
a = 10

print(a)
```

```
name = "minion"

print(name)
```

```
b = 42
B = "X-rays"

print(b,B)
```

```
D = 22
D = "Ant"

print(D)
```

Data types

Integer

```
int
-1, 2, 0, 1000
```

Float

```
float
0.1, 2.76, -9.45
```

Strings

```
str
'python', 'NAXXATRA', "hello", "wonder"

"""disco""",

"""
this is a multi-line string
"""
```

Boolean

```
bool
True, False
```

None

```
None
```

--

Check type

```
a = 10
type(a)
```

Operations with variables

```
a,b = 10,20 # assign multiple variables
```

try these operations with `a` and `b`

```
print(a + b)

print(a - b)

print(a * b)

print(a / b)

print(a < b)

print(a > b)

print(a == b)
```

```
del a,b #delete variables
```

Strings

```
# Strings are collection of characters
str1 = 'laka '
str2 = 'laka '
print(str1)
print(str2)
```

```
print(str1 + str2)
print(str1 * 5)
```

```
str1.upper(), str2.lower()
```

```
s1 = '1'
s2 = '2'
print(s1 + s2)
```

```
#Indexing (Collections in python are 0-indexed, i.e, the first element's index is 0)
print(str1[2])
```

```
#Slicing - str1[start : stop : step]
print(str1[1:5])
```

Type Conversion

```
a = 10
b = str(a)
c = float(a)
```

```
type(a)
```

```
type(b)
```

```
type(c)
```

```
d = int(b)
```

```
type(d)
```

```
a = input("Enter the first number: ")
type(a)
```

```
a = int(input("Enter the first number: "))
type(a)
```

Lists

Mutable collection of heterogenous items

```
# Mutable collection of heterogenous items
l = [1, 2, 'a', 0.4, False]
```

```
l[2] # accessing by index
```

```
l[2:4] # accessing a slice
```

```
l.append(42) # adding to end of a list
l
```

```
l.append([9,0]) # adding to a list
l
```

Tuples

Immutable collection of items

```
# Immutable collection of items
t = (1, 2, 'a', 0.4, False)
```

```
t[2] # accessing by index
```

```
t[2:4] # accessing a slice
```

we cannot add, remove or modify items from a tuple

Dictionaries

Dictionaries are key value pairs

```
apple = {
    "name": "Apple",
    "price": 100,
    "color": "red"
}
orange = {"name": "orange", "price": 50, "color": "orange"}
```

Dictionaries

Updating dictionaries

```
apple["price"] = 120 # updating a value
```

```
apple["flavour"] = "sweet" # adding a new key-value pair
```

```
apple.update({"calory":125,"type":"natural"}) # updating a dictionary with another dictionary
```

Conditional Statements

```
a, b, c = 10, 20, 30


if (a > b) and (a > c):
    print("a is the largest")
elif (b > a) and (b > c):
    print("b is the largest")
else:
    print("c is the largest")
```

Problem (FizzBuzz)

A practice problem to learn how to use conditional statements.

Fizzbuzz is a problem where you have to print the numbers from 1 to 100.

- But for multiples of 3 print "Fizz" instead of the number
- and for the multiples of 5 print "Buzz".
- For numbers which are multiples of both 3 and 5 print "FizzBuzz".

```
1 # example output
2
Fizz
4
Buzz
Fizz
7
8
Fizz
Buzz
11
Fizz
13
14
FizzBuzz
16
```