

# PYTHON FUNDAMENTALS

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## **Bootcamp**

October 2020

## AGENDA

- Review yesterday's lab topics
  - Lists
  - Tuples
  - Mutability vs Immutability
  - Dictionaries
  - Sets
- Lab Session 3

## LEARNING OBJECTIVES

### **During this Bootcamp, you will learn:**

#### Day 1:

- ✓ Variables
- ✓ Datatypes (string, int, float, bool)

#### Day 2:

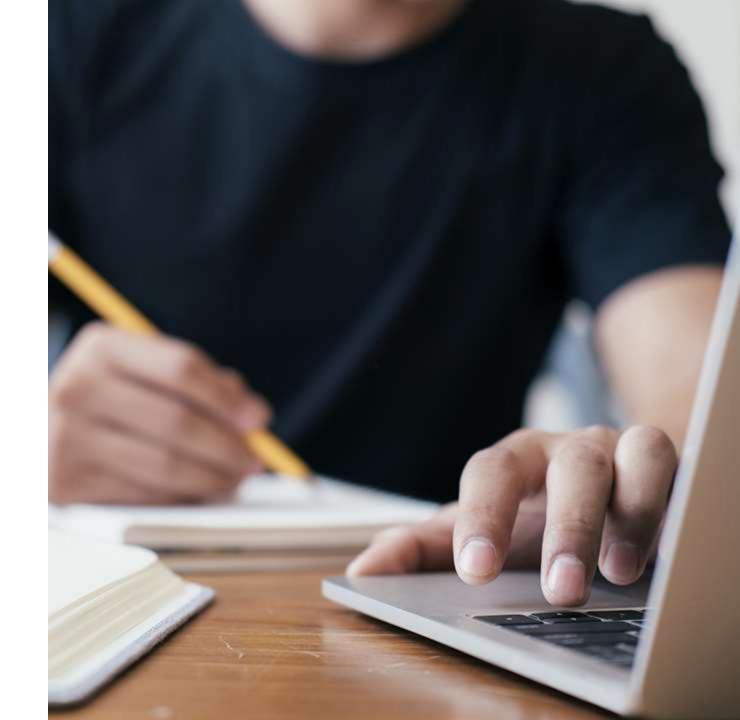
✓ Data structures (lists, tuple, dict, set)

#### Day 3:

- Flow control
  - If / else statements
  - For loops

#### Day 4:

- Functions
  - User defined functions
  - Modules
  - Packages



# LISTS

```
ingredients = ["spam", "ham", "eggs", "cheese"]
# Index
ingredients[0]
# Slice
ingredients[0:2]
# Append
ingredients.append("mushroom")
# Sorting (in place)
ingredients.sort()
```

# **TUPLES**

```
# The Dutch Flag NL
first color = "red"
second color = "white"
third color = "blue"
# Tuple packing
flag = (first color, second color, third color)
# Tuple unpacking
first color, second color, third color = flag
# Methods
flag.count("red")
flag.index("blue")
```

# MUTABILITY VS IMMUTABILITY

Immutable	Mutable
bool	list
int	dict
float	set
str	
tuple	

## DICTIONARIES

```
person = {"name": "Alice",
         "age": 42,
          "email": "alice@gmail.com"}
# Methods
person.keys()
person.values()
person.items()
# Getting a value
person["age"]
```

## SETS

```
characters = ["a", "b", "b", "c"]
unique chars = set(characters)
print(unique chars) # Prints {'a', 'b', 'c'}
set1 = {"a", "b", "c", "d"}
set2 = {"b", "d", "d", "e"}
set1.intersection(set2) # Prints {'b', 'd'}
set1.difference(set2) # Prints {'a', 'c'}
set1.issubset(set2) # Prints False
set1.symmetric difference(set2) # Prints {'a', 'c', 'e'}
```



## LAB SESSION 3

### Topics:

- Comparisons
- Flow control:
  - "if / else" statements
  - "for" loops
  - "while" loops

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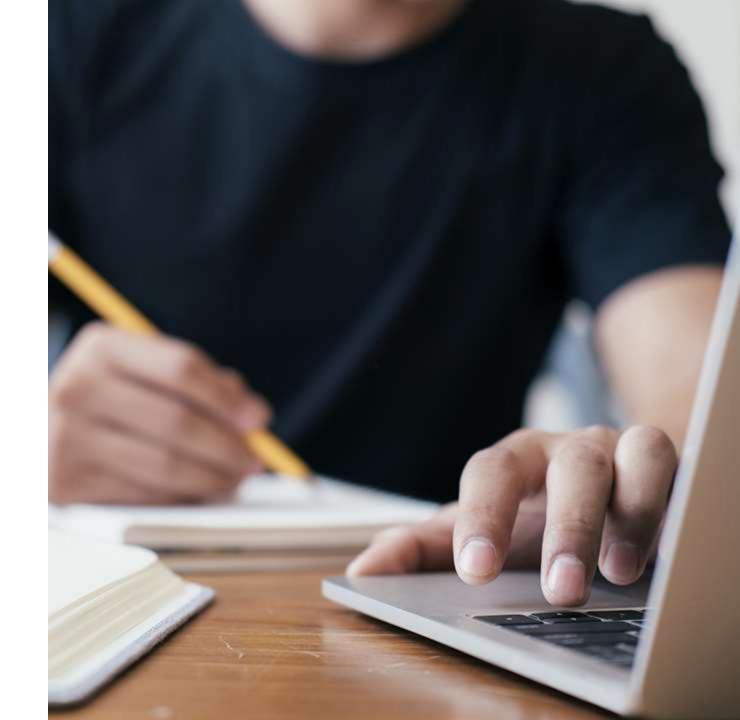
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#### Day 3:

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# THE END

See you tomorrow!

