



PYTHON FUNDAMENTALS

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Bootcamp

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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.union(set2)            # Prints {'a', 'b', 'c', 'd', 'e'}
set1.issubset(set2)         # Prints False
set1.symmetric_difference(set2) # Prints {'a', 'c', 'e'}
```


A photograph of three students (two women and one man) sitting at a long wooden table in a computer lab, working on laptops. The man in the foreground is wearing glasses and a light blue shirt. The background is slightly blurred.

LAB SESSION 3

Topics:

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

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THE END

See you tomorrow!

