دوره‌ی پایتون- جنگو

بوت‌کمپ ۵۱

مدرس: میمنت جلیلیان
مربی: سارا قانعی

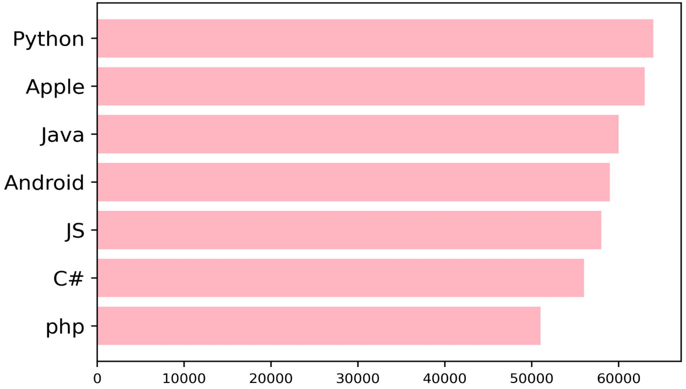
About Python

- Development started in the 1980’s by Guido van Rossum
- Now it's widely spread
- Free, Open Source
- Easy to learn
- Interpreted
- high level
- General purpose
- Cross-platform
- Large standard library and active community

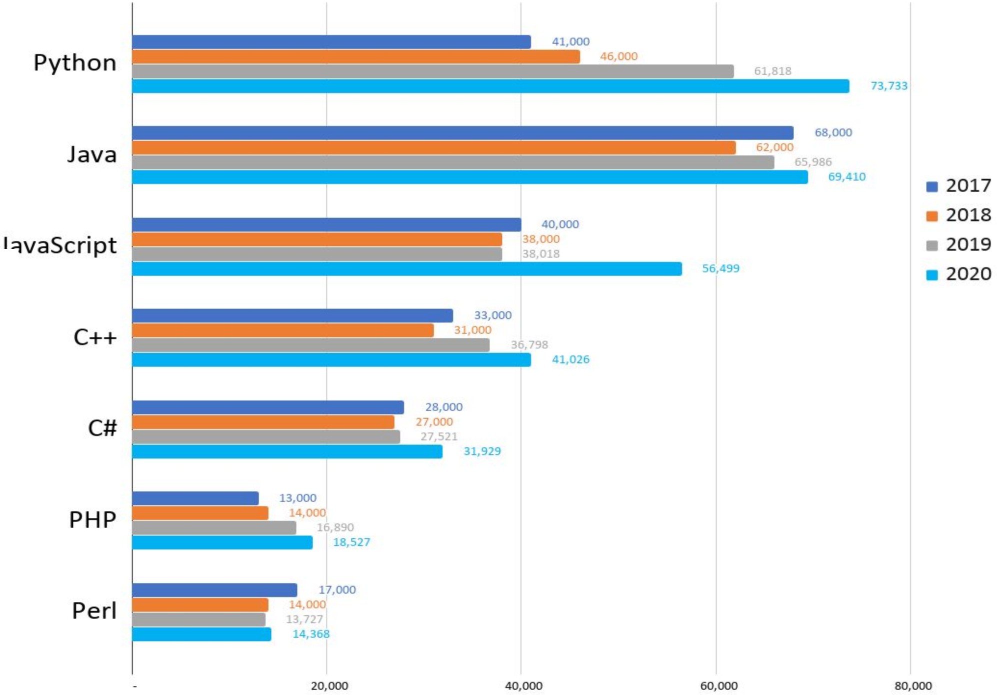
python

Python in Market

Average Salary in Iran based on Jobinja Website



How do our usual languages fare?
Worldwide jobs on indeed.com



Philosophy

Beautiful is better than ugly.

Explicit is better than implicit.

Simple is better than complex.

Complex is better than complicated.

Flat is better than nested.

Sparse is better than dense.

Readability counts.

Special cases aren't special enough to break the rules.

Although practicality beats purity.

Errors should never pass silently.

Unless explicitly silenced.

In the face of ambiguity, refuse the temptation to guess.

There should be one-- and preferably only one --obvious way to do it.

Although that way may not be obvious at first unless you're Dutch.

Now is better than never.

Although never is often better than right now.

If the implementation is hard to explain, it's a bad idea.

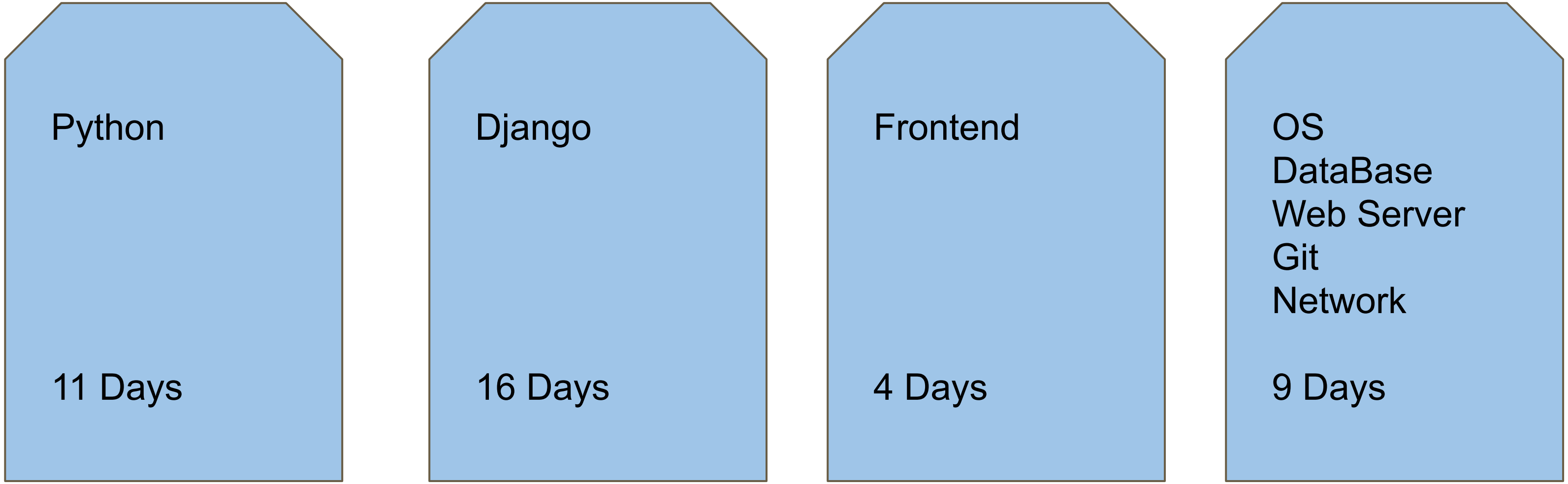
If the implementation is easy to explain, it may be a good idea.

Namespaces are one honking great idea -- let's do more of those!

Course Structure

- Sessions:
  - Sunday 18-21
  - Thursday- Friday : 9-12 | 14-17
- Projects:
  - One Python project
  - One Django Project
  - One Complete Django Project Setup on OS
- Homeworks:
  - Weekly
  - Delay penalty: -10% daily (up to 5 days)
  - After 5 days: -50%

RoadMap



Python

11 Days

Django

16 Days

Frontend

4 Days

OS
DataBase
Web Server
Git
Network

9 Days

Resources

- Stanford Python Course
- MIT Python Course
- Tutorialspoint python course
- …

Let's Start!

First things first

- Do not hesitate to ask!
- If something is not clear, stop me and ask.
- try to code with me

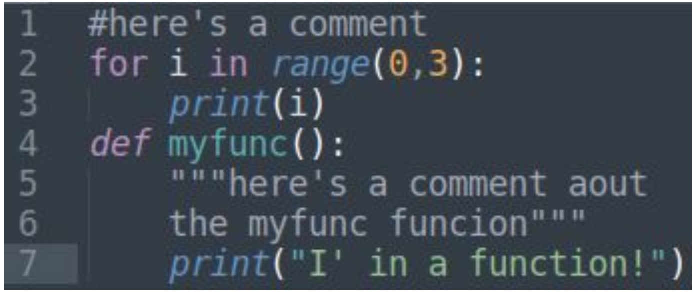
- Coding is all about trial and error.
- Don't be afraid of it.
- Error messages aren't scary, they are useful.

Getting Started

- Install Python (https://www.python.org/downloads/)
- Somewhere to write code
  - IDE (Pycharm, Visual Studio, Spyder,Jupyter Notebook,...)
  - Notepad, Notepad++, Sublime,...
  - Online Python shells (https://www.python.org/shell/)

Some fundamentals

- Whitespace is significant in Python. Where other languages may use {} or (), Python uses indentation to denote code blocks.



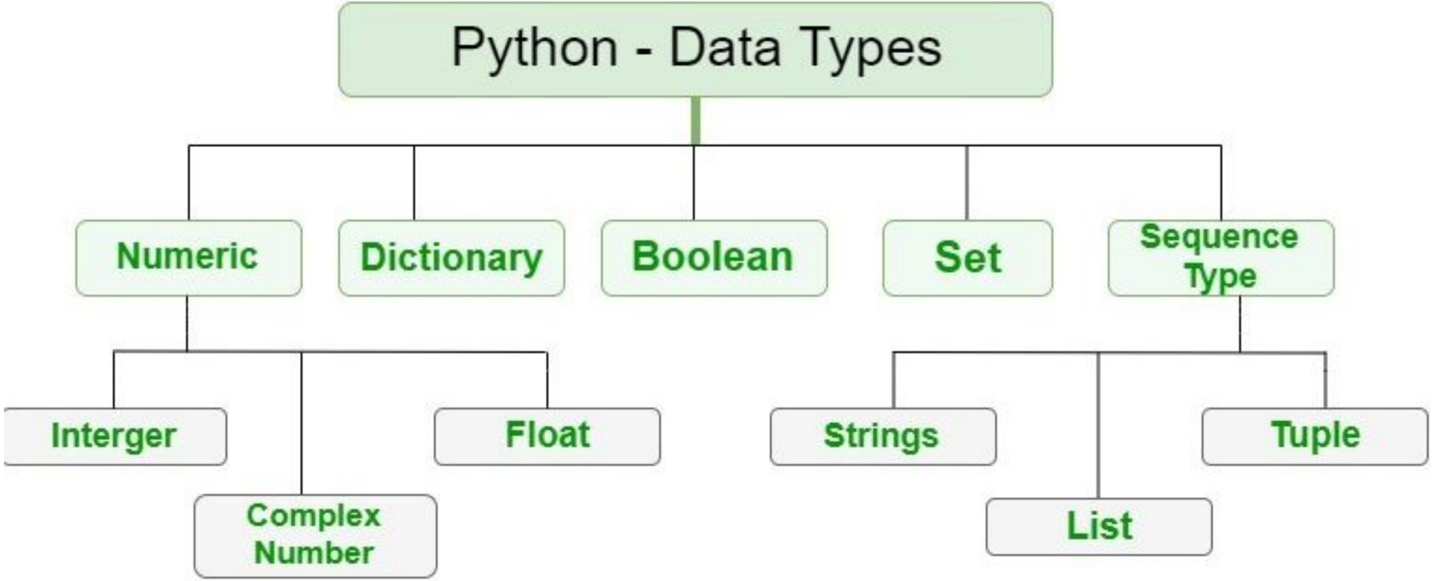
```python
#here's a comment
for i in range(0,3):
    print(i)
def myfunc():
    """here's a comment aout
    the myfunc funcion"""
    print("I' in a function!")
```

- Comments
  - Single-line comments denoted by #.
  - Multi-line comments begin and end with three “s.
  - Typically, multi-line comments are meant for documentation.
  - Comments should express information that cannot be expressed
  - in code – do not restate code.

Python typing

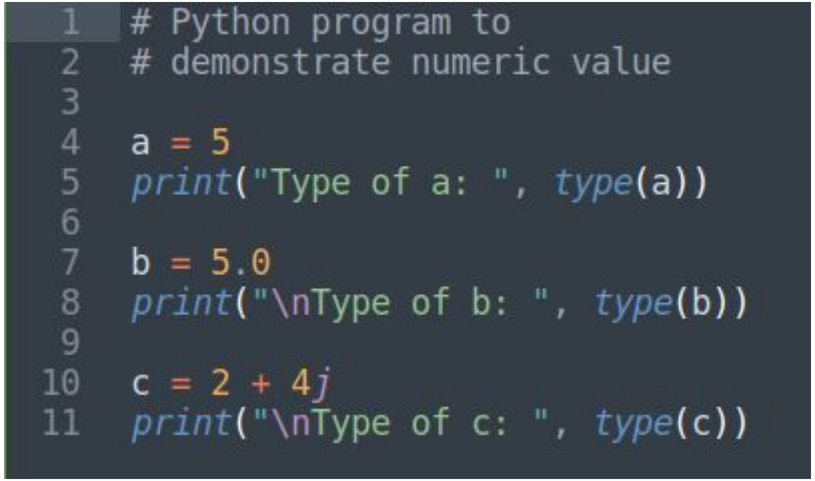
- Python is a strongly, dynamically typed language.
- Strong Typing
  - Obviously, Python isn't performing static type checking, but it does prevent mixing operations between mismatched types.
  - Explicit conversions are required in order to mix types.
  - Example: 2 + "four" not going to fly
- Dynamic Typing
  - All type checking is done at runtime.
  - No need to declare a variable or give it a type before use.

Data types


Python - Data Types
Numeric
Dictionary
Boolean
Set
Sequence Type
Interger
Complex Number
Float
Strings
List
Tuple

Numeric types

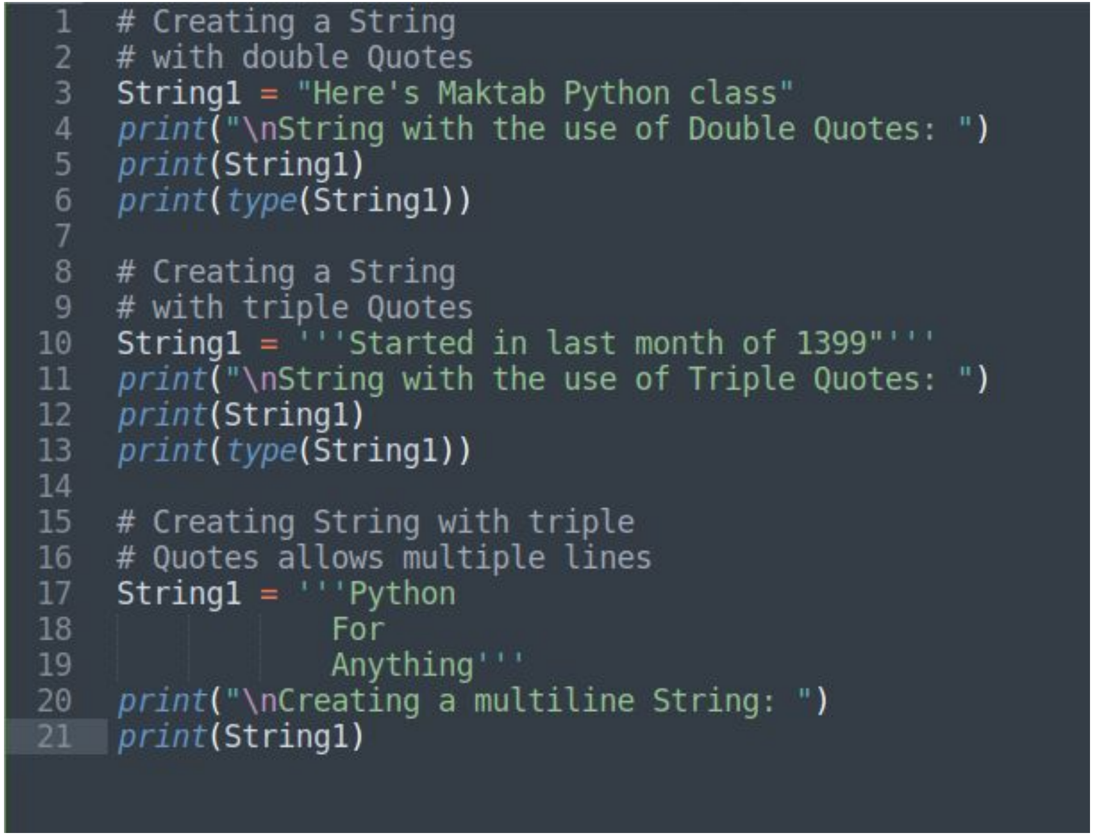
- Numeric
  - int: equivalent to C’s long int in 2.x but unlimited in 3.x.
  - float
  - complex



```python
# Python program to
# demonstrate numeric value

a = 5
print("Type of a: ", type(a))

b = 5.0
print("\nType of b: ", type(b))

c = 2 + 4j
print("\nType of c: ", type(c))
```

String type

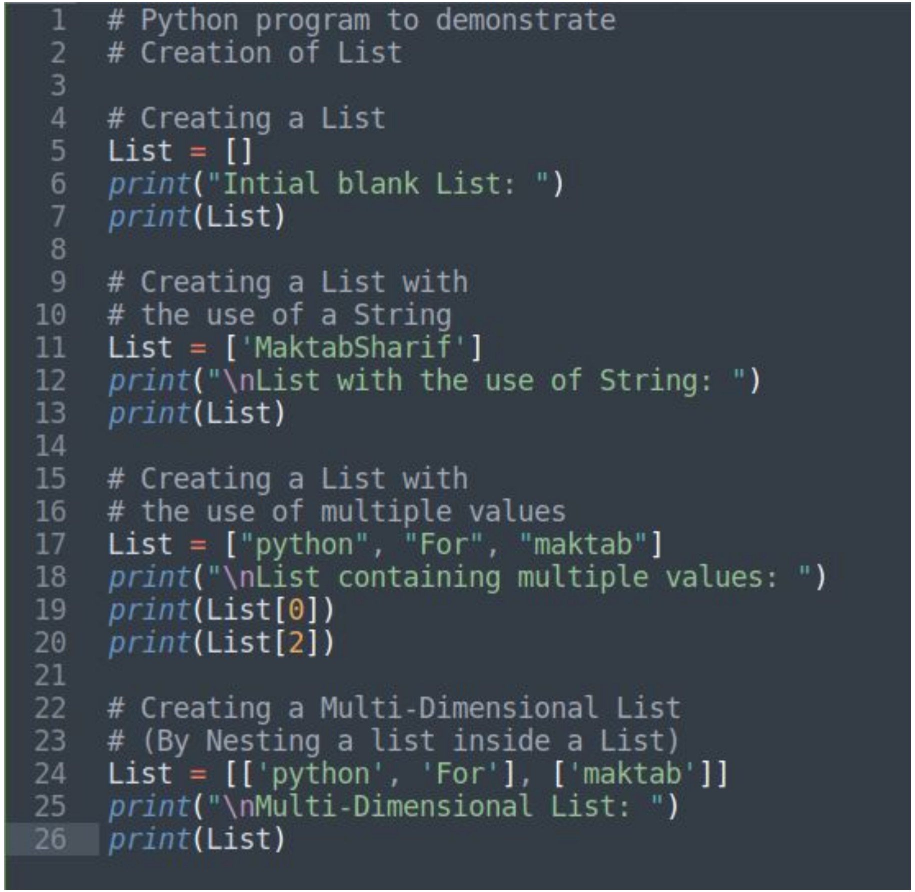
- Accessing elements[]
- .append()
- len()
- .upper()
- .lower()



```python
# Creating a String
# with double Quotes
String1 = "Here's Maktab Python class"
print("\nString with the use of Double Quotes: ")
print(String1)
print(type(String1))

# Creating a String
# with triple Quotes
String1 = '''Started in last month of 1399"'''
print("\nString with the use of Triple Quotes: ")
print(String1)
print(type(String1))

# Creating String with triple
# Quotes allows multiple lines
String1 = '''Python
            For
            Anything'''
print("\nCreating a multiline String: ")
print(String1)
```

List type

- create
- list slicing
- .append()
- .extend()
- .pop()
- .insert()



```python
# Python program to demonstrate
# Creation of List

# Creating a List
List = []
print("Intial blank List: ")
print(List)

# Creating a List with
# the use of a String
List = ['MaktabSharif']
print("\nList with the use of String: ")
print(List)

# Creating a List with
# the use of multiple values
List = ["python", "For", "maktab"]
print("\nList containing multiple values: ")
print(List[0])
print(List[2])

# Creating a Multi-Dimensional List
# (By Nesting a list inside a List)
List = [['python', 'For'], ['maktab']]
print("\nMulti-Dimensional List: ")
print(List)
```