



Python End-To-End

DataRockie School

How to get started

1. Personal Laptop
2. Web Browser + Internet Access
3. Coding experience not required :D



Guido van Rossum
Inventor of Python

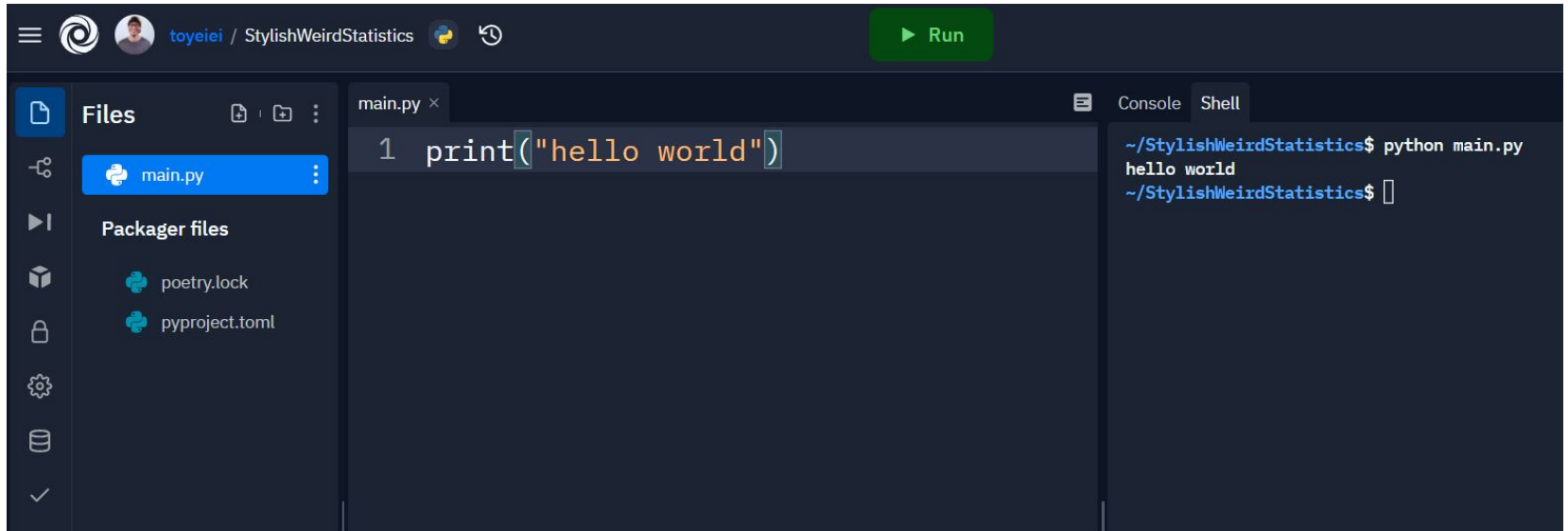


What is **Python**

Python is general-purpose language

- Software
- Web development
- API
- Data science

Text Editor



How to run Python **script .py**

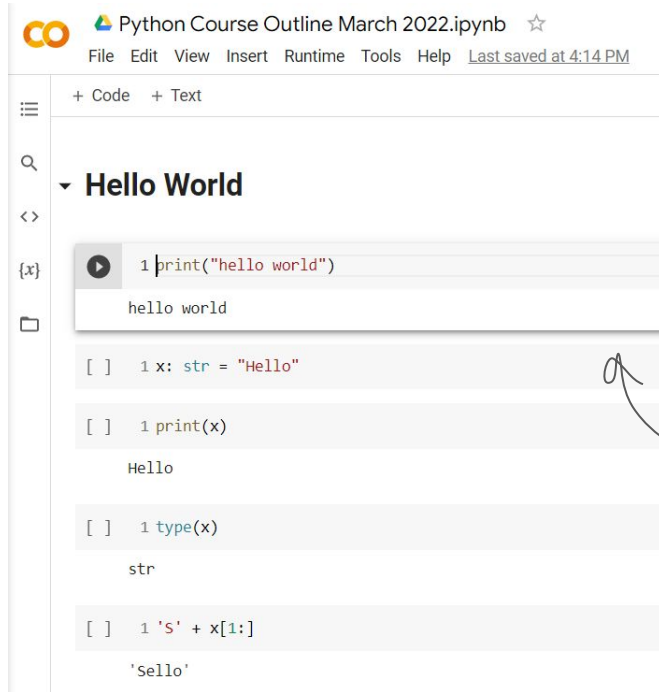
```
## create a new file  
  
print("hello world")  
  
## save this file as  
## main.py in folder
```



python main.py

Run python file in terminal

Google Colab (Notebook)



The screenshot shows a Google Colab notebook interface. At the top, the title bar reads "Python Course Outline March 2022.ipynb" with a star icon. Below the title bar is a menu bar with options: File, Edit, View, Insert, Runtime, Tools, Help, and a link "Last saved at 4:14 PM". On the left side, there is a sidebar with icons for a menu, search, code editor, and file explorer. The main area displays a notebook with a section titled "Hello World". The notebook contains four code cells. The first cell is a code cell with the code `1 print("hello world")` and its output is "hello world". The second cell is a code cell with the code `[] 1 x: str = "Hello"`. The third cell is a code cell with the code `[] 1 print(x)` and its output is "Hello". The fourth cell is a code cell with the code `[] 1 type(x)` and its output is "str". The fifth cell is a code cell with the code `[] 1 'S' + x[1:]` and its output is "'Sello'".

Python Course Outline March 2022.ipynb ☆

File Edit View Insert Runtime Tools Help [Last saved at 4:14 PM](#)

+ Code + Text

▼ Hello World

```
1 print("hello world")
```

hello world

```
[ ] 1 x: str = "Hello"
```

```
[ ] 1 print(x)
```

Hello

```
[ ] 1 type(x)
```

str

```
[ ] 1 'S' + x[1:]
```

'Sello'

Code cell + text cell

Core Concepts of Any Language

1. Variable
2. Data Types
3. Data Structures
4. Control Flow
5. Function

Variable

```
## create a new variable
```

```
my_name = "Toy"
```

```
my_age = 33
```

```
my_university = "Kasetsart"
```

```
movie_lover = True
```




we use = to create a variable

Print Value

```
## print value of a variable
```

```
x = "Hello World"
```

```
print(x)    # Hello World
```



print() is a generic function

Data Types

1. Int
2. Float
3. String
4. Bool

Data Types

```
## we use type() to check type of a variable
```

```
type("Toy")
```

```
type(2022)
```

```
type(True)
```

```
type(3.41)
```



Checking type

String Method

```
## create a new string variable  
  
text = "a duck walks into a bar"  
  
text.upper()  
text.lower()  
text.count("a")
```

https://www.w3schools.com/python/python_ref_string.asp

Index in Python starts at 0

```
## create a new string variable
```

```
text = "Hello world"
```

```
text[0]      # H
```

```
text[1]      # e
```

```
text[6:]     # world
```

```
text[0:5]    # Hello
```



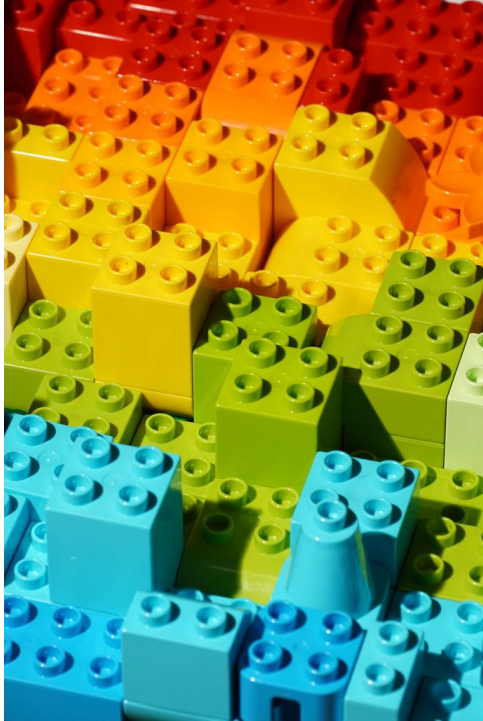
index

What is Method

object.method()



method is a function applied
to a specific object (class)



Writing program is like
building up a **LEGO**

we code up Piece by piece

Data Structures

1. List
2. Tuple
3. Dictionary
4. Set

List

```
## list is mutable
```

```
shopping_list = ['egg', 'bread', 'milk']
```

```
shopping_list[0] # egg
```

```
shopping_list[1] # bread
```

```
shopping_list[2] # milk
```

Tuple

use () to create a tuple

```
## tuple is immutable
```

```
shopping_tuple = ('egg', 'bread', 'milk')
```



```
shopping_tuple[0]    # egg
```

```
shopping_tuple[1]    # bread
```

```
shopping_tuple[2]    # milk
```

Dictionary

```
## dict uses key-value pairs
```

```
customer = {  
    "id": 1,  
    "first_name": "David",  
    "last_name" : "Beckham",  
    "nationality": "English"  
}
```

Set

```
## set uses { } just like dict
```

```
shopping_set = {'egg', 'bread', 'milk'}
```

Control Flow

1. if-else
2. for loop
3. while loop

If else

```
## if-else

score = 85
if score > 80:
    print("Passed")
else:
    print("Failed")
```

For Loop

```
## for loop

shopping_list = ['egg', 'bread', 'milk']

for item in shopping_list:
    print("I have to buy " + item)
```


While Loop

```
## while loop


count = 0
while (count < 5):
    print("Hello!")
    count += 1    ## update count
```

Function

```
## create a new function
```

```
def greeting():  
    print("hello world")
```

```
def greeting(name):  
    print("hello " + name)
```



input



You are here :)



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