

Hello Python!

INTRODUCTION TO PYTHON



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How you will learn

Exercise

Python as a calculator

Python is perfectly suited to do basic calculations. It can do addition, subtraction, multiplication and division.

The code in the script gives some examples.

Now it's your turn to practice!

Instructions

100 XP

- Print the result of subtracting 5 from 5 under `# Subtraction` using `print()`.
- Print the result of multiplying 3 by 5 under `# Multiplication`.

Take Hint (-30 XP)

script.py

Light Mode

```
1 # Addition and division
2 print(4 + 5)
3 print(10 / 2)
4
5 # Subtraction
6 print(5 - 5)
7
8 # Multiplication
9
```



Run Code

Submit Answer

IPython Shell

In [1]:

Python



- General purpose: build anything
- Open source! Free!
- Python packages, also for data science
 - Many applications and fields

IPython Shell

Execute Python commands

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← Course Outline →

Light Mode

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Instructions 100 XP

- Print the sum of `5 + 5`.
- Print the result of subtracting `5` from `5`.
- Multiply `3` by `5`.
- Divide `10` by `2`.

Take Hint (-30 XP)

script.py

```
1 # Addition
2
3
4 # Subtraction
5
6
7 # Multiplication
8
9
10 # Division
11
```

Run Code Submit Answer

IPython Shell

In [1]:

IPython Shell

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IPython Shell

In [1]:

IPython Shell

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script.py

1

Run Code

Submit Answer

IPython Shell

In [1]:

Python Script

- Text files - `.py`
- List of Python commands
- Similar to typing in IPython Shell

The screenshot shows a web interface for a Python exercise. On the left, the exercise title is "Python as a calculator" with a description: "Python is perfectly suited to do basic calculations. It can do addition, subtraction, multiplication and division. The code in the script gives some examples. Now it's your turn to practice!". Below this is the "Instructions" section, which lists four tasks: "Print the sum of 5 + 5 .", "Print the result of subtracting 5 from 5 .", "Multiply 3 by 5 .", and "Divide 10 by 2 .". A "Take Hint (-30 XP)" button is at the bottom of the instructions. On the right, a code editor window titled "script.py" is open, showing a Python script with comments for addition, subtraction, multiplication, and division. The code is as follows:

```
1 # Addition
2
3
4 # Subtraction
5
6
7 # Multiplication
8
9
10 # Division
11
```

At the bottom of the code editor are buttons for "Run Code" and "Submit Answer". Below the code editor is an "IPython Shell" window with the prompt "In [1]:".

Python Script

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Exercise

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Instructions 100 XP

- Print the sum of 4 + 5 .
- Print the result of subtracting 5 from 5 .
- Multiply 3 by 5 .
- Divide 10 by 2 .

Take Hint (-30 XP)

script.py Light Mode

1 4

⌂ Run Code Submit Answer

IPython Shell

In [1]:

Python Script

The screenshot shows a web interface for a Python exercise. The top navigation bar includes 'Learn / Courses / Introduction to Python' and a 'Course Outline' button. The left sidebar has tabs for 'Exercise' and 'Instructions'. The 'Exercise' tab is active, showing the title 'Python as a calculator' and a description: 'Python is perfectly suited to do basic calculations. It can do addition, subtraction, multiplication and division. The code in the script gives some examples. Now it's your turn to practice!'. Below this, the 'Instructions' tab is visible, showing a list of tasks: 'Print the sum of 4 + 5', 'Print the result of subtracting 5 from 5', 'Multiply 3 by 5', and 'Divide 10 by 2'. A 'Take Hint (-30 XP)' button is also present. The main area is a code editor with a file named 'script.py' containing a single line of code: '1'. At the bottom of the editor are buttons for 'Run Code' and 'Submit Answer'. Below the editor is an 'IPython Shell' window with the prompt 'In [1]:'.

- Use `print()` to generate output from script

DataCamp Interface

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Course Outline

→

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script.py

Light Mode

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↺

Run Code

Submit Answer

IPython Shell

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In [1]:

Let's practice!

INTRODUCTION TO PYTHON

Variables and Types

INTRODUCTION TO PYTHON



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Variable

- Specific, case-sensitive name
- Call up value through variable name
- 1.79 m - 68.7 kg

```
height = 1.79  
weight = 68.7  
height
```

```
1.79
```

Calculate BMI

```
height = 1.79  
weight = 68.7  
height
```

```
1.79
```

$$\text{BMI} = \frac{\text{weight}}{\text{height}^2}$$

```
68.7 / 1.79 ** 2
```

```
21.4413
```

```
weight / height ** 2
```

```
21.4413
```

```
bmi = weight / height ** 2  
bmi
```

```
21.4413
```

Reproducibility

```
height = 1.79  
weight = 68.7  
bmi = weight / height ** 2  
print(bmi)
```

```
21.4413
```

Reproducibility

```
height = 1.79  
weight = 74.2 # <-  
bmi = weight / height ** 2  
print(bmi)
```

```
23.1578
```


Python Types

```
type(bmi)
```

```
float
```

```
day_of_week = 5  
type(day_of_week)
```

```
int
```

Python Types (2)

```
x = "body mass index"  
y = 'this works too'  
type(y)
```

str

```
z = True  
type(z)
```

bool

Python Types (3)

```
2 + 3
```

```
5
```

```
'ab' + 'cd'
```

```
'abcd'
```

- Different type = different behavior!

Let's practice!

INTRODUCTION TO PYTHON