

# Hello Python!

INTRODUCTION TO PYTHON



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Data Scientist at DataCamp

# 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

Exercise

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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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↺

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IPython Shell

In [1]:

# IPython Shell

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Exercise

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script.py

Light Mode

1

↺

Run Code

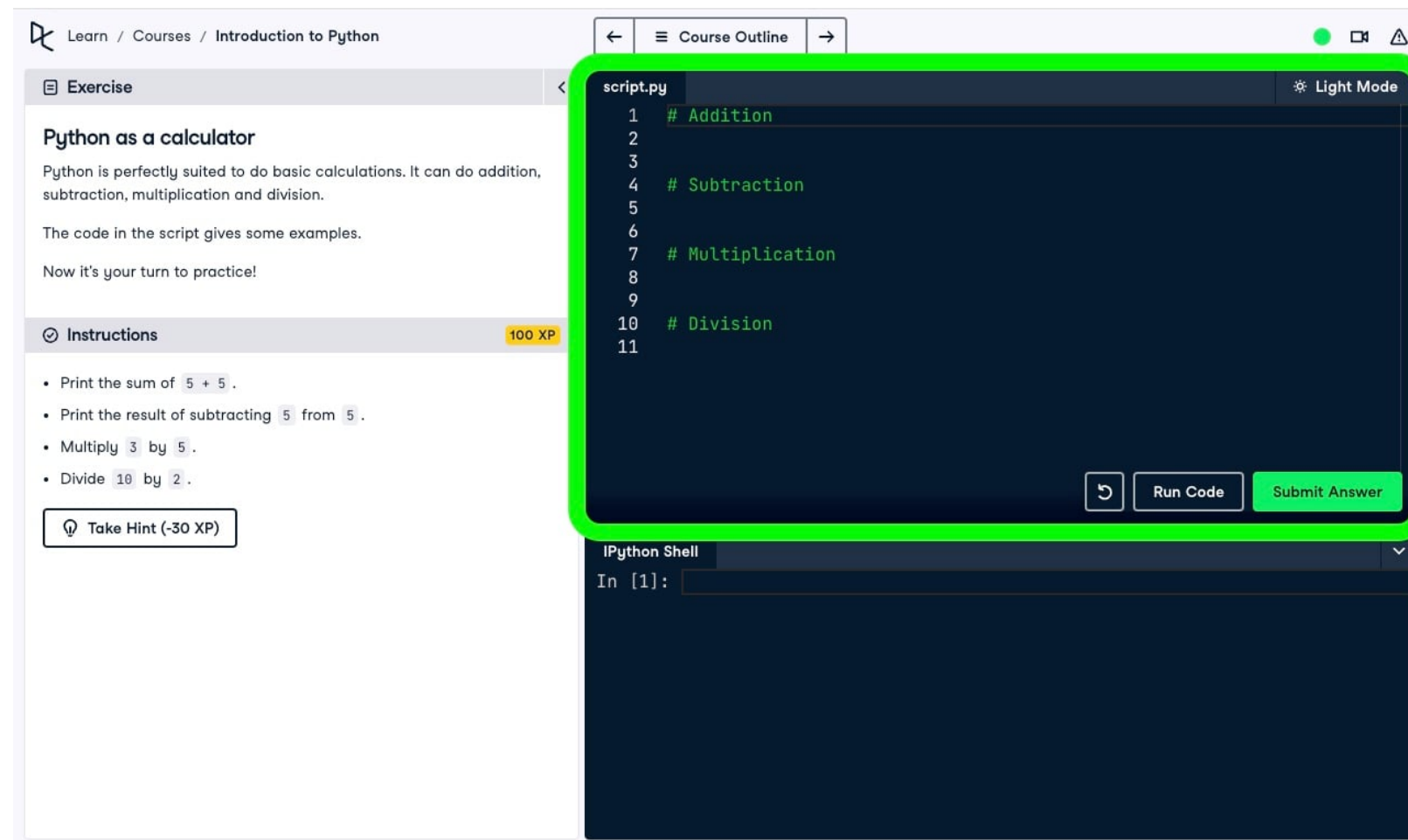
Submit Answer

IPython Shell

In [1]:

# Python Script

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



The screenshot shows a web-based Python learning environment. On the left, a sidebar contains an 'Exercise' section titled 'Python as a calculator' with instructions and a list of tasks: 'Print the sum of 5 + 5', 'Print the result of subtracting 5 from 5', 'Multiply 3 by 5', and 'Divide 10 by 2'. Below these is a 'Take Hint (-30 XP)' button. The main area on the right is a code editor for a file named 'script.py'. The code contains comments for addition, subtraction, multiplication, and division. The editor has a 'Light Mode' toggle and buttons for 'Run Code' and 'Submit Answer'. Below the code editor is an 'IPython Shell' with a prompt 'In [1]:'. The code editor is highlighted with a thick green border.

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

# Python Script

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← Course Outline →

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Exercise

Python as a calculator

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Instructions 100 XP

- Print the sum of 4 + 5 .
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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 split into two panes. The top pane, titled 'script.py', contains a code editor with a single line of code: `1`. The bottom pane, titled 'IPython Shell', shows a prompt `In [1]:` and an empty input field. At the bottom right of the code editor, there are three buttons: a circular arrow icon, 'Run Code', and 'Submit Answer'.

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

# DataCamp Interface

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Course Outline

→

Exercise

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Instructions

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Take Hint (-30 XP)

script.py

Light Mode

```
1 # Addition
2
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4 # Subtraction
5
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7 # Multiplication
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```

↺

Run Code

Submit Answer

IPython Shell

▼

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