

## **Estimated time**

- 20 minutes

## **Level of difficulty**

- intermediate

## **Objectives**

- becoming familiar with the concept of numbers, operators and arithmetic operations in Python;
- understanding the precedence and associativity of Python operators, as well as the proper use of parentheses.

- **Scenario**

- Your task is to complete the code in order to evaluate the following expression:

$$\frac{1}{x + \frac{1}{x + \frac{1}{x + \frac{1}{x}}}}$$

- The result should be assigned to `y`. Be careful - watch the operators and keep their priorities in mind. Don't hesitate to use as many parentheses as you need.
- You can use additional variables to shorten the expression (but it's not necessary). Test your code carefully.

## Test Data

Sample input: 1

Expected output:

$y = 0.600000000000000001$

Sample input: 10

Expected output:

$y = 0.09901951266867294$

Sample input: 100

Expected output:

$y = 0.009999000199950014$

Sample input: -5

Expected output:

$y = -0.19258202567760344$

```
1 x = float(input("Enter value for x: "))
2
3 # Write your code here.
4
5 print("y =", y)
6
```