# Lesson 3 For-loops part I

## Learning objectives

1. Define the term “looping variable”
2. State the difference between a while-loop and a for-loop
3. Use for-loops to iterate over lists and over ranges of numbers
4. Use if-statements and formulas inside for-loops.

## Agenda

1. Twenty-second spiel on the difference between a while-loop and a for-loop
2. Demonstrate example for-loop programs 0-9 (20 min)
3. Students experiment with turtle graphics using for-loops (15 min)
4. For-loop Practice Problems 1 (40 min)

### Demonstrating example programs 0-9

Over broadcast, use the example Python programs *Example 0-9* to show how to:

* Iterate over a list of strings
* Iterate over a list of numbers
* Iterate over a range of numbers
* Increment a string variable repeatedly
* Increment a numeric variable repeatedly
* Use if-statements inside a loop
* Run turtle graphics using a loop

### Give students 15 minutes to experiment with turtle graphics

### Have them begin the practice problems