# Loops with While and For

### Goals:

1. Get known how to use [while](https://www.arduino.cc/reference/en/language/structure/control-structure/while/)- and [for-loops](https://www.arduino.cc/reference/en/language/structure/control-structure/for/) for repetitions.
2. Fade an LED.

### Parts:

* LED, 330 Ω resistor

### Circuit:



### Exercises:

1. Use an [integer-variable](https://www.arduino.cc/reference/en/language/variables/data-types/int/) and a loop to investigate what the largest number that can be stored into an integer variable is. Change the left hand sided code in order to find out the largest number.
Read the documentation if you are interested how to save even larger numbers.
2. Fade an LED using a loop (right hand side). What do you have to change, if you also want to fade out and not only fade in?

### Sourcecodes:



