Python course materials

# Advanced Numbers

In this lecture we will learn about a few more representations of numbers in Python.

## Hexadecimal

Using the function hex() you can convert numbers into a [hexadecimal](https://en.wikipedia.org/wiki/Hexadecimal) format:

hex(246)

'0xf6'

hex(512)

'0x200'

## Binary

Using the function bin() you can convert numbers into their [binary](https://en.wikipedia.org/wiki/Binary_number) format.

bin(1234)

'0b10011010010'

bin(128)

'0b10000000'

bin(512)

'0b1000000000'

## Exponentials

The function pow() takes two arguments, equivalent to x^y. With three arguments it is equivalent to (x^y)%z, but may be more efficient for long integers.

pow(3,4)

81

pow(3,4,5)

1

## Absolute Value

The function abs() returns the absolute value of a number. The argument may be an integer or a floating point number. If the argument is a complex number, its magnitude is returned.

abs(-3.14)

3.14

abs(3)

3

## Round

The function round() will round a number to a given precision in decimal digits (default 0 digits). It does not convert integers to floats.

round(3,2)

3

round(395,-2)

400

round(3.1415926535,2)

3.14

Python has a built-in math library that is also useful to play around with in case you are ever in need of some mathematical operations. Explore the documentation [here](https://docs.python.org/3/library/math.html)!