Practical exercises: Python

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Python

https://www.python.org/

Nice short introductory tutorials
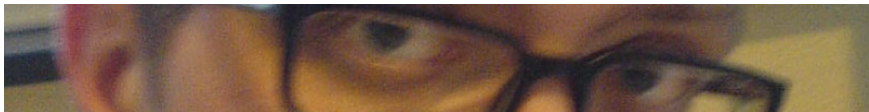
1. "Instant Hacking" by Magnus Hetland
   `http://hetland.org/writing/instant-hacking.html`

2. "Instant Python" by Magnus Hetland
   `http://hetland.org/writing/instant-python.html`

Variables

```
$ ipython
Python 3.5.2 (default, Nov  7 2016, 11:31:36)
Type "copyright", "credits" or "license" for more information.

IPython 5.1.0 -- An enhanced Interactive Python.
?         -> Introduction and overview of IPython's features.
%quickref -> Quick reference.
help      -> Python's own help system.
object?   -> Details about 'object', use 'object??' for extra details.

In [1]: width = 20

In [2]: height = 30

In [3]: area = width * height

In [4]: print(area)
600
```

Conditions

```
In [5]: temperature = input("What is the temperature?")

In [6]:
if temperature > 30:
    print("It is hot.")
elif temperature > 20:
    print("It is pleasant.")
elif temperature > 10:
    print("It is chilly.")
elif temperature > 0:
    print("It is cold.")
else:
    print("It is freezing.")
```

Loops

```
In [7]:
for number in range(1,100):
    print("Just", 100 - number, "more to go...")
print("That was the last one... Phew!")
```

Functions

```
In [8]:
def area(width, height):
    return width * height

In [9]: area(20, 30)
Out[9]: 600

In [10]: area(4, 5)
Out[10]: 20
```

Data structures

```
In [11]: working_days = 5

In [12]: greeting = 'Hello world'

In [13]: beverages = ['tea, 'coffee', 'juice']

In [14]: friend = {'name': 'Jane',
                    'phone': 123456,
                    'address': 'Baker Street 221B'}
```