# Introduction to python

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# Why python?

- good trade off between human time and machine time

- easy to pick up

- widely used

- well documented

- many libraries for research

- most popular alternatives: R, perl, (java)

# Definitions

- variables

```
a = 1
b = 3.14
c = 'charles'
```

- loops

```
for i in range(0, 10, 1):
    print i
```

```
i = 0
while i < 10:
    # print i
    i = i + 1
```

- conditionals

```
for i in range(0, 10, 1):
    if i == 3:
        print 'we have 3'
    elif i > 3:
        print 'we have many'
    else:
        print 'we have few'
```

- lists, tuples, dictionaries

```
a = [0, 1, 2, 3, 4]
b = (0, 1, 2, 3, 4)
c = {'one': 11, 'two': 22
     'three': 33, 'four': 79}
```

# Quick start

- Open a shell and type "python"

- try previous examples on the "python shell"

- write these lines together in a text file and run it