03-Conditionals and Control Flow

Unknown Author

August 15, 2013

1 Python: Flow Control

Materials by: John Blischak and other Software Carpentry instructors (Joshua R. Smith, Milad Fatenejad, Katy Huff, Tommy Guy and many more)In this lesson we will cover how to write code that will execute only if specified conditions are met and also how to automate repetitive tasks using loops.

2 If statements

```
< > <= >= == !=
```

In [1]:
```
x = 5
if x < 0:
    print "x is negative"
```

In [2]:
```
x = -5
if x < 0:
    print "x is negative"
```

```
x is negative
```

In [3]:
```
x = 5
if x < 0:
    print "x is negative"
else:
    print "x in non-negative"
```

```
x in non-negative
```

In [4]:
```
x = 5
if x < 0:
    print "x is negative"
elif x == 0:
    print "x is zero"
else:
    print "x is positive"
```

```
x is positive
```

Be careful because the computer interprets comparisons very literally.

In [5]:
```
'1' < 2
```

Out [5]:
```
False
```

In [6]:
```
True == 'True'
```

Out [6]:
```
False
```

In [7]:
```
False == 0
```

Out [7]:
```
True
```

In [8]:
```
'Bears' > 'Packers'
```

Out [8]:
```
False
```

2.1 Indentation

The indentation is a feature of python that some people hate. Some other programming languages use brackets to denote a command block. Python uses indentation. The amount of indentation doesn't matter, so long as everything in the same block is indented the same amount.

But you should pick a number of spaces (probably 4) and stick to that!

2.2 Short Exercise

Write an if statement that prints whether x is even or odd.