

13 - Python, Git Branching Wrap-up

CS 2043: Unix Tools and Scripting, Spring 2016 [1]

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 - Have 3 assignments instead of 4, but HW3 will be longer.

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 - Doing it on your own is much more challenging, and often has little payoff.

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 - You are making new strings every single time.

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- Add / overwrite items with `d['key'] = 'value'`

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 - **Operator overloading: read Kenneth Love's article in [2]. Many other excellent resources from him linked on that site.**

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- The **xrange** functionality of iteration instead of list entirely replaced **range** in python 3, so **xrange** does not exist anymore (just **range**)!

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 - Extremely important to know the difference for **str** objects, since strings are immutable. Example on next slide.

String Comparison

```
#!/usr/bin/env python
#          ^^^^^^ could be python3 too...
# Define a simple function to print various relations...
# ...string formatting is really convenient!
def eval(s1, s2):
    print("'{}' == '{}' : {}".format(s1,s2,s1 == s2))
    print("'{}' is '{}' : {}".format(s1,s2,s1 is s2))
    print("    id(s1): {}".format(id(s1)))
    print("    id(s2): {}".format(id(s2)))

#
# Make some strings and evaluate them...
#
x = "dog"
y = "cat"
eval(x,y)
#
# Change the strings and evaluate again...
#
print("\n...change value of y to dog...\n")
# This may seem like a crazy way to make "dog", but
# Python is smart enough to know that if you say
#
#     y = "dog"
#
# Given that x is already that value, it will point
# to it instead of making a new one. This just forces
# the creation of a new string.
y = ''.join(char for char in ['d','o','g'])
eval(x,y)
```

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- There are different file modes, e.g. **r** is read, **w** is write (but will overwrite if the file exists).
- The **with** statement in python is pure magic, and if your code crashes for whatever reason python will go through and close the file properly for you. There are many other cases you will find the **with** statement superior, e.g. with **threads** and **locks** (CS 4410).

Git Branching Wrap-up

Lets Make our Own Branches

Let's make our own feature branch:

<https://github.com/cs2043-sp16/lecture-demos/tree/master/lec13>

[1] B. Abrahao, H. Abu-Libdeh, N. Savva, D. Slater, and others over the years.

Previous cornell cs 2043 course slides.

[2] K. Love.

Operator overloading in python.

[http://blog.teamtreehouse.com/
operator-overloading-python](http://blog.teamtreehouse.com/operator-overloading-python).