

Programming Workshop: GitHub, Vim, and Python Basics

Beginner's Workshop #3
26 September 2016

Outline

1. Speed Exercises
2. “Homework” - Completion
3. GitHub - Fork Our Repository
4. Using Vim
5. Python:
 - a. Making a script
 - b. I/O
 - c. Making a Function

Speed Exercises

1:

Make a function that counts to 15 and prints each odd number.

60 seconds

Speed Exercises

2:

Make a function that prints all prime numbers between 1 and 100.

180 seconds

Speed Exercises

3:

Make a script that takes a string from the user and prints how many characters it contains.

120 seconds

“Homework”

1. **Get Linux and Python running!**
2. Make a GitHub account and fork our repository
3. Go through the Codecademy Python lesson

Forking our GitHub Repository

Forking our repository:

1. Open our repo in a web browser
2. In the upper right side of the interface, click “fork this repository”
3. In the list of your repositories, select the fork of our repository
4. Clone your fork of our repository to your computer

VIM!

1. Open a terminal
2. Open a file with Vim
3. Follow along and try each step

Alternative: gedit

```
sudo apt-get install gedit
```


VIM commands

Command	Description
vim <file>	Open file <file>
i	Go into insert mode
v	Go into visual mode
Arrow keys	Move up, down, left, or right
y	When in visual mode, select text, and use 'y' to copy (yank)
p	When not in any mode , use 'p' to paste on the character or row following cursor
:w	Save (write) file
:q	Exit (quit)

VIM!

For more practice, head to:

<http://vim-adventures.com/>

Python Basics: Scripting

- Involves making a file and running the file
- Similar operation to interpreter - the Python interpreter still interprets the script - but not an interactive interface
- Unlike other languages, DON'T need:
 - Main()
 - Functions
 - Classes

Python Basics: I/O

Many types of input:

- `input()`
- `open("filename", "mode")`
 - `file.read()`
- `with open() as csvfile: ...`
 - `csv.readrow()`

Python Basics: I/O (cont'd)

Command line input collected via:

```
variable = input("Print this statement then collect: ")
```

Sometimes must cast type:

```
int_variable = int(input("Give us a number: "))
```

```
float_variable = float(input("Give us a number: "))
```

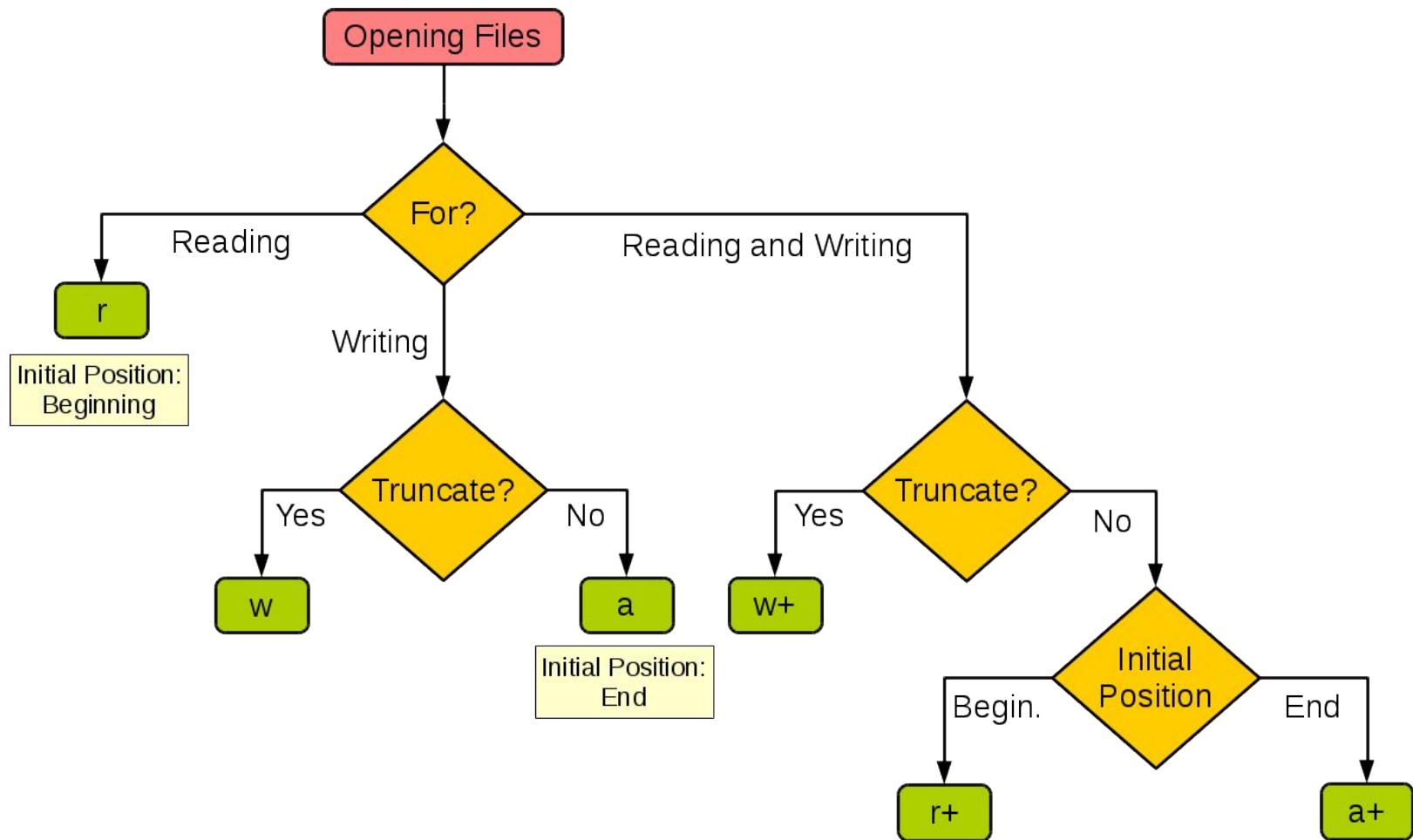
Python Basics: I/O (cont'd)

File input collected via:

```
file_reference = open("filename", "mode")
```

Then can write to file:

```
file_reference.write()
```



Python Basics: I/O (cont'd)

Many types of output:

- `print()`
- `open("filename", "mode")`
 - `file.write()`
- `with open() as csvfile: ...`
 - `csv.writerow()`

“Homework”

1. Go through the Codecademy Python lesson
2. Play Vim Adventures or read Vim tutorials