

3/10 in Class Work
Some review and some practice for the first exam
And some continuation of work with strings (Ch 5)

Working in groups, clearly write out answers to these questions. Please number each one. Please don't erase until I take pictures.

Questions from Chapter 3: Computing with Numbers

1. What is an integer? Give three examples.
2. What is a real (floating point) number? Give three examples.
3. Can you turn an integer into a floating point number? If so, give an example. If not, explain why not.
4. In Python, how would you find out if a number is an integer or float?
5. What is 110101_2 in decimal? Show your work.
6. What is 70_{10} in binary? Show your work.
7. Which kind of number is more accurate in Python: an integer or a float? Why?
8. Compute the values:
 - (a) $7 / 4$
 - (b) $16.0 / 4.0$
 - (c) $20 // 4$
 - (d) $18 \% 4$
 - (e) $4 ** 3$
 - (f) $20 + 4 * 5 / 2 - 1$
9. Show the sequence of numbers that would be generated by each of the following **range** expressions:
 - (a) `range(4)`

- (b) `range(2, 8)`
- (c) `range(1, 12, 3)`
- (d) `range(15, 5, -2)`
- (e) `range(10, 5)`

10. Show the output that would be generated by each of the following code snippets:

- (a)

```
for i in range(3):  
    print(2 * i)
```
- (b)

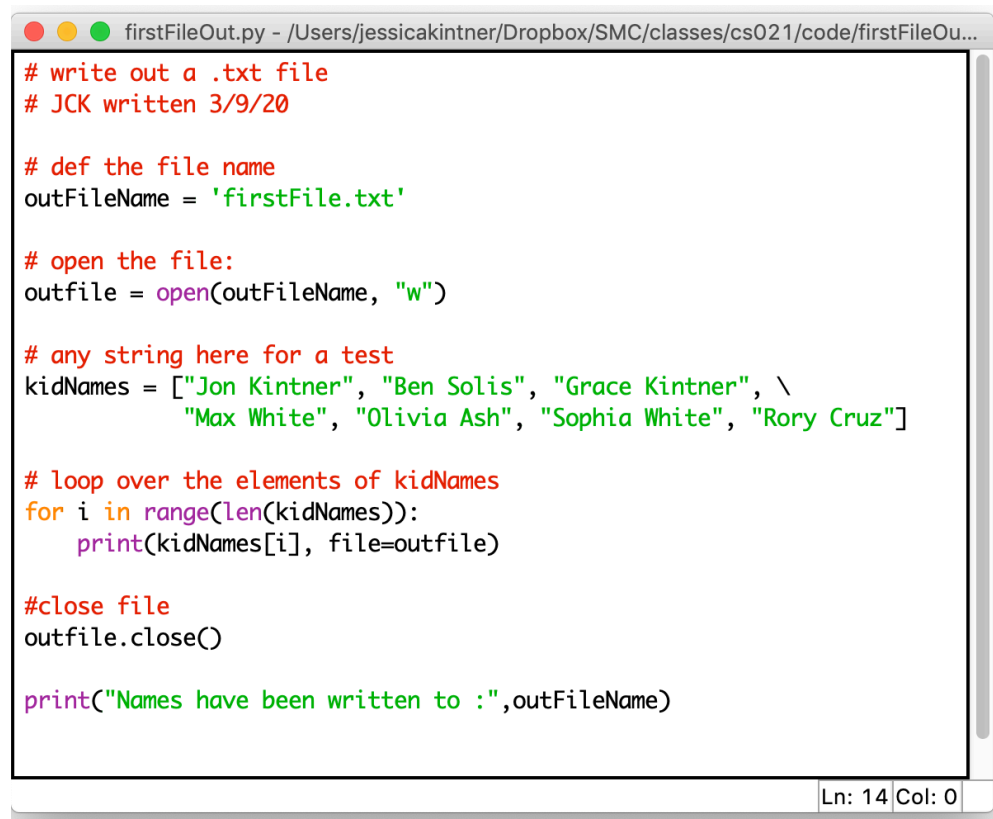
```
a = 0  
b = 5  
c = 2  
for i in range(a, b, c):  
    print(i, end = " ")  
    print(b + c)  
print("done")
```
- (c)

```
ans = 0  
for i in range(5):  
    ans = ans + i  
print(ans)
```

End of Ch 3 Review

Back to Chapter 5 and files: reading and writing them

- 11. Read through 5.9 without typing anything. Try to follow it. Please ask each other or me if you have questions.
- 12. Type the following code exactly in the IDLE editor. (If you don't remember how to run this, ask each other, ask me, look up instructions on the course web page. We are going to read and write files. This is a bit easier on the local machine than in Colab.) Let's start local.

A screenshot of a text editor window titled "firstFileOut.py - /Users/jessicakintner/Dropbox/SMC/classes/cs021/code/firstFileOu...". The window contains Python code for writing a list of names to a text file. The code is as follows:

```
# write out a .txt file
# JCK written 3/9/20

# def the file name
outFileName = 'firstFile.txt'

# open the file:
outfile = open(outFileName, "w")

# any string here for a test
kidNames = ["Jon Kintner", "Ben Solis", "Grace Kintner", \
            "Max White", "Olivia Ash", "Sophia White", "Rory Cruz"]

# loop over the elements of kidNames
for i in range(len(kidNames)):
    print(kidNames[i], file=outfile)

#close file
outfile.close()

print("Names have been written to :",outFileName)
```

The status bar at the bottom right of the window shows "Ln: 14 Col: 0".

13. There should now be two files created today on your desktop (or wherever you save files.) One should be the python code you typed: `firstFileOut.py` and the text file (.txt) that the .py file wrote: `firstFile.txt`

You should be able to double click on the .txt file and open it.

Ask each other or me if this didn't work. (You need the output file to go on.)

14. Beginning on p 163 there is a Python code called `userfile.py`. Edit it so that it uses the file we just created as the input file. See if you can edit the code to create a file of usernames from our file.

Show me your output file when you are finished.