

CS2 20 6-4-20

- last lecture !
- last office hour (Pat)
tomorrow Fri 6/5/20 : 11:00 - 2:00
- last quiz (quiz 5)
18 hour window for completion
12:00 PM Mon. June 8
- 6:00 AM Tue. June 9
- Pa 8 extended 2 days to
Sat. June 6 10 PM.
absolutely last extension .

Chap 14 : Files

to open a file

```
f = open('blah', 'w')
```

f is now a file handle

used to write to file 'blah'

note file 'blah' exists but
has nothing in it yet. written
chars are stored in a buffer

```
f.close() # copies buffer to file
```

```
g=open('blah', 'w') # now open with  
# new file handle
```

```
g.write('xxx')
```

```
g.close()
```

`h = open('blah', 'a') # append mode`

`h.write('stuff\n')`

`h.close()`

open in read mode:

`f = open('blah', 'r')`

`f.readline()` # reads 1 line
return as str

`f.readlines()` # reads all lines
return as list of
str

See Library reference
Built-in func
`open()`

Ex. File1.py

File2.py

File3.py

Ex. File4.py

Ex. Web.py

compare to File3.py

Quiz 5 Review

- ① write a program that opens a file called 'happy', reads its contents into a string, counts the # of tokens (words) in the file, prints that #, then prints the words in alpha order, one on each line.

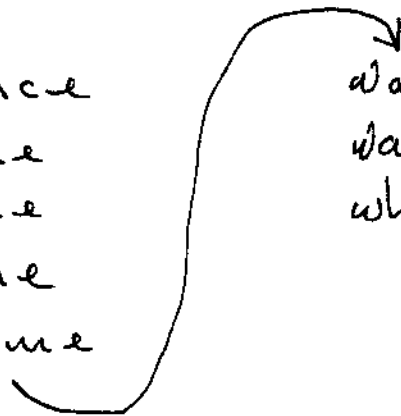
```
f = open('happy')
s = f.read()
f.close()
L = s.split()
print(len(L))
L.sort()
for x in L:
    print(x)
#end for
```

Suppose 'happy' contains one line:

one time one was what one was once
what is the output?

once
one
one
one
time

was
was
what



② write a function `add(A, B)` that takes two lists `A, B` of numbers (with `len(A) = len(B)`) and returns a new list consisting of the sums corresponding numbers in `A, B`. i.e.

`add([3, 5, -1], [6, -8, 10])`

returns

`[9, -3, 9]`

(i.e. just vector addition)

```
def add(A, B):
```

```
    C = []
```

```
    for i in range(len(A)):
```

```
        C.append(A[i] + B[i])
```

```
    # end for
```

```
    return C
```

```
# end add()
```

what does the following call return:

`add([0.1, 1.2, 3.4, 5.6], [8.2, -3.0, 5.1, 0.0])`

`[8.3, -1.8, 8.5, 5.6]`

- ③ write a function `mult(A, B)` that takes a list of ints `A`, and a list of strings `B`, and returns a new list (of length `len(A) = len(B)`) whose i th element is `A[i]` copies of `B[i]` i.e. the call

`mult([3, 2, 1], ['one', 'two', 'three'])`
returns
`['oneoneone', 'twotwo', 'three']`

```
def mult(A, B):
    C = []
    for i in range(len(A)):
        C.append(A[i] * B[i])
    # end for
    return C
# end mult()
```

- ④ given `L` = above returned list, what is printed by

```
t = '{2:<12}x{0:>8}y{1:<10}'
s = t.format(L[2], L[1], L[0])
Print(s)
```

output: oneoneone_x_threytwotwo_