

## Problem Solving Challenge

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CSU Stanislaus

## Preface: Useful Python

- To read in a file:
 

```
infileVarName = open("/User/.../studentname/Desktop/filename.csv", 'r')

for myLine in infileVarName:
    //do stuff with string named myLine

infileVarName.close() // when you are done!
```

## Useful Python: output

- To write to a file:
 

```
outfileVarName = open("filename.txt", 'w')

outfileVarName.write(stringVarName + '\n')
or
outfileVarName.write("oh what a beautiful morning\n")

outfileVarName.close() // when you are done!
```

## More Python: splitting

Call the list variable myList. String is stored in myLine.

```
myList = myLine.split(", ")
```

If myLine contains something like "dog, cat, horse"  
myList will be a list of ['dog', 'cat', 'horse']  
I can get just 'horse' by using  
myList[2]

## More Python: dictionaries

Dictionaries store key / value pairs

```
myDict = {'dog':3, 'cat':4, 'horse':1}

myInteger = myDict["dog"]
//myInteger is now 3
myDict["horse"] = 6
//dictionary has changed, 'horse' value is now 6 instead of 1
```

## More Python: dictionaries (2)

```
myDict = {'dog':3, 'cat':4, 'horse':1}

myList = myDict.keys()
//myList is now ['dog', 'cat', 'horse']
myList = myDict.values()
//myList is now [3, 4, 1]

print(myDict.keys())
Will print all the keys, if you want to check what they are
```

## More Python

```
for i in myDict.keys():
    // do stuff based on each individual key

if x > y:
    //do something
else:
    //do something else
```

## Challenge

- Given file of Tweets
- Find the most frequently used words.
- Write most commonly used words to a file.
- To begin, find the words used more than 100 times. Or more than 90 times...

```
"4","3","Mon May 11 03:17:40 UTC 2009","kindle2","tpryan","@stellargirl I
loooooooooovvvveee my Kindle2. Not that the DX is cool, but the 2 is fantastic in its own
right."
"4","4","Mon May 11 03:18:03 UTC 2009","kindle2","vcu451","Reading my kindle2... Love
it... Lee childs is good read."
"4","6","Mon May 11 03:19:04 UTC 2009","kindle2","SIX15","@kenburbary You'll love your
Kindle2. I've had mine for a few months and never looked back. The new big one is huge! No
need for remorse! :)"
"4","7","Mon May 11 03:21:41 UTC 2009","kindle2","yamarama","@mikefish Fair enough.
But i have the Kindle2 and I think it's perfect :)"
"4","8","Mon May 11 03:22:00 UTC 2009","kindle2","GeorgeVHulme","@richardebaker no.
it is too big. I'm quite happy with the Kindle2."
"4","10","Mon May 11 03:26:10 UTC 2009","jquery","dcostalis","jQuery is my new best
friend."
"4","11","Mon May 11 03:27:15 UTC 2009","twitter","PJ_King","Loves twitter"
"4","157","Mon May 18 05:07:16 UTC 2009","scrapbooking","rachelbegins","is scrapbooking
with Nic =D"
```

## Extra challenge

- Does your program work on the file of 1.6 million Tweets?