COMP 141	
Strings II	
Rhodes College	1

Quiz	- /	
<pre>def main(): file = open('tncities.txt', 'r') largestPop = 0 largestPopCity = '' for line in file: line = line.rstip() city, population = line.split(' population = int(population) if population > largestPop: largestPopCity = city file.close()</pre>	· ")	Incilent - Notepad File Edit Format View Helj Chattanooga 181624 Memphis 647596 Nashville 679318 Knoxville 189368 Clarksville 189368 Clarksville 154250 Murfreesboro 149605
<pre>print(largestPopCity) print(largestPop) main()</pre>		Output shville 3318

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Number 5 in Billboard File Reading Lab

Write a program to find all pairs of consecutively-ranked songs on the chart where their relative popularities are reversed from the prior week. In other words, find all back-to-back songs in the file where --- in the prior week --- the currently less-popular song was ranked higher than the currently more-popular song. Note that the songs need not be consecutively-ranked in the prior week, just the current week.

Hint: Use the sliding window technique.

Announcements

Reminders: Program 6 - due Sunday, April 5th

Using len function

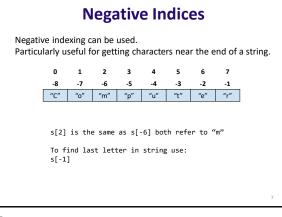
Prints 1 letter of city on each line city = 'Boston' index = 0while index < len(city): print(city[index])

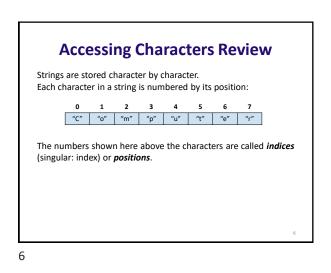
index += 1

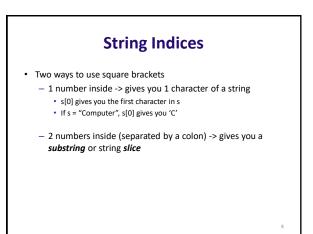
Equivalent Code

city = 'Boston' for index in range(0, len(city)): print(city[index])

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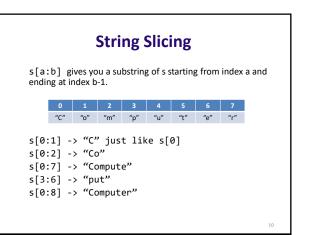


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String Slicing

- <u>Slice</u>: span of items taken from a sequence, known as *substring*
 - Slicing format: string[start : end]
 - Expression will return a string containing a copy of the characters from *start* up to, but not including, *end*
 - If *start* not specified, 0 is used for start index
 - If end not specified, len(string) is used for end index
 - Slicing expressions can include a step value and negative indexes relative to end of string

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Indices Don't have to be Literal Numbers

Say we have this code:

```
s = input("Type in a string: ")
x = int(len(s) / 2)
print s[0:x])
```

What does this print?

More Fun with Indices
• Examples using negative indices
• A negative index counts from the right side of the string, rather
than from the left
s = "Computer"
print(s[-1]) #prints r
print(s[-3:len(s)]) #prints ter
print(s[1:-1]) #prints ompute

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More Fun with Indices

- Slices don't need both left and right indices
- Missing left -> use 0 [far left of string]
- Missing right -> use len(s) [far right of string]

```
s = "Computer"
```

<pre>print(s[1:])</pre>	#prints	omputer
<pre>print(s[:5])</pre>	#prints	Compu
<pre>print(s[-2:])</pre>	#prints	er

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- Write a function called total_seconds that takes one string argument. This argument will be a string of the form "M:SS" where M is a number of minutes (a single digit) and SS is a number of seconds (2 digits). This function should calculate the total number of seconds in this amount of time and return it as an integer. (Hint: Use string slicing/indices)
- Write a function called count_digits that returns the number of digits in a string.
 - count_digits("abc123def5") returns 4
- Write a function called sum_digits that returns the sum of all the digits in a string.

- sum_digits("abc123def5") returns 11
(because 1 + 2 + 3 + 5 = 11)

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