

CSE 20 10-26-21

- Pa4: ext. 1 day
- Pa5: Post soon
- lab4: due next mon.
- Wednesday office hrs
 - morning only
 - afternoon off. hrs. cancelled.

chap 8 and 9 : Strings

string is almost same as list.

a string is a sequence of characters.

note: there is no 'char' data type in Python.

`s = 'happy'` `s` $\rightarrow$

0	1	2	3	4
h	a	p	p	y

`print(s[0], s[4], s[2])` $\neq$ `hyp`

`L = list(s)` $\neq$

0	1	2	3	4
'h'	'a'	'p'	'p'	'y'

`enumerate(s)` produces a ~~list~~
 of Pairs: enumerate
object

`(0, 'h')`

`(1, 'a')`

`(2, 'p')`

`(3, 'p')`

`(4, 'y')`

`s[-1]` $\leftrightarrow$ `s[len(s)-1]` = `s[4]`

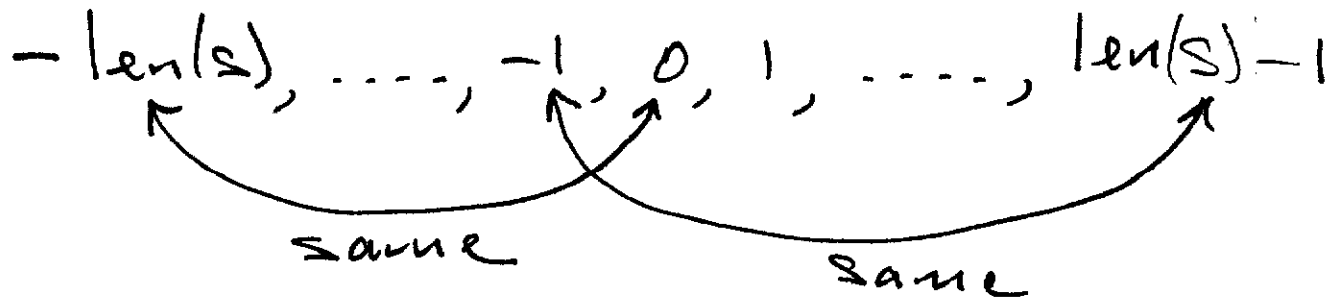
`s[-2]` $-2 = s[3]$

`s[-3]` $-3 = s[2]$

`s[-4]` $-4 = s[1]$

`s[-5]` $-5 = s[0]$

valid values in $[]$ are



traverse a string:

forward:

$i = 0$

while $i < \text{len}(s)$:

$\text{Print}(s[i])$

$i += 1$

end while.

backward

$i = \text{len}(s)$

while $i >= 0$:

$\text{Print}(s[i])$:

$i -= 1$

end while.

or

```
for i in range(len(s):  
    print(s[i])  
#end for
```

or

```
for e in s:  
    print(e)  
#end for
```

can also do:-

```
for e in s: print(e)
```

Slices

$s[n:m]$ denotes substring
of s consisting of

$$s[n] s[n+1] \dots s[m-1]$$

$s[:m]$ substring

$$s[0] s[1] \dots s[m-1]$$

$s[n:]$ means substring

$$s[n] s[n+1] \dots s[\text{len}(s)-1]$$

$s[:]$ means a copy of s

comparisons of strings

`t = 'sad'`

`t == s`

`t < s`

`t <= s`

`t > s`

`t >= s`

`t != s`

note: strings are immutable,
i.e. cannot be changed like
lists.

operator: `in`, `not in`

`'p' in s` `# True`

`'q' in s` `# False`

`'q' not in s` `# True`

same as

not 'q' in s # True

Ex. RemoveVowels.py

FindInString.py

string funcs (see documentation)

str.find() ✓

str.split() ✓

also join() ✓

upper() ✓

lower() ✓

title() ✓

swapcase() ✓

read docs on built-in type str.

also `format()`

Ex.

" $2+3=\{0\}$ and $2*3=\{1\}$ ".format($2+3$,
 $2*3$)

returns string:

" $2+3=5$ and $2*3=6$ "

See: exercise at end of chap 8
also see chap 9.

Read chap 12: Tuple

a tuple is an immutable list.

Python data type.

- int } numeric
- float }

□ list } sequence
- string }
□ tuple }

□ dictionary } container
□ set }