

CSE 20

5-14-20

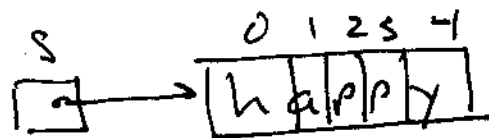
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Ex. Twenty Questions, Py

$$\lceil \log_2(1000000) \rceil = \lceil 19.93... \rceil = 20$$

Chapter 8: Strings

`s = 'happy'`



`print(s[0], s[4], s[2])` # output
h y p

note: there is no character-data type in Python, so

`s[1]` is substring 'a'

- negative indices in list
- loops on strings
- slices

$s[n:m]$ # substring consisting of
$s[n]s[n+1]\dots s[m-1]$

can also slice List

$L[n:m]$ # same $L[n]\dots L[m]$

also

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

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

- comparing strings: $==$, $<$, $>$,
 $!=$, $<=$, $>=$

Note:

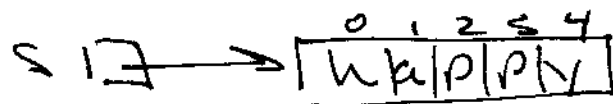
once a string object is created, it can't be changed, i.e. strings are immutable

$s[1] = 'o' \neq$ is s now 'hoply'?

Note Lists can be changed, i.e. lists are mutable.

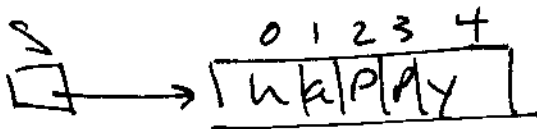
To 'change' a string, must create a new string

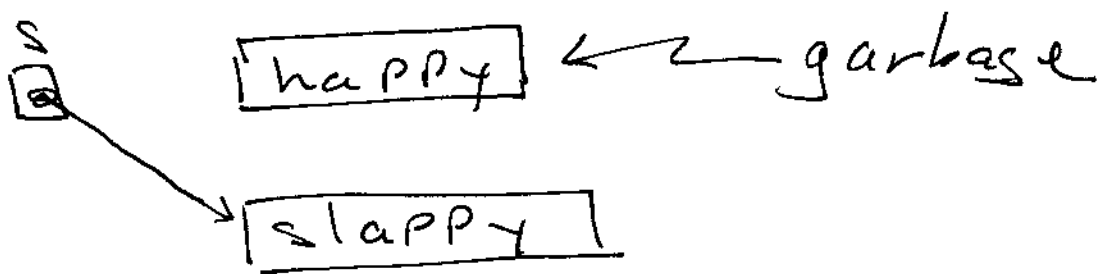
$r = 'sl' + s[1:] \neq$ r is 'slappy'



what if we do

$s = 'sl' + s[1:]$ # now s is 'slappy'

before 

after 

The `in` operator tests for membership in a string or list

'p' in s # True

'q' in s # False

Ex, $L = ['one', 'two', 'three']$ $'one' \text{ in } L \neq \text{True}$ $s \text{ in } L \neq \text{False}$ $L.append(s) \neq L \text{ is } [..., ..., 'happy']$ $s \text{ in } L \neq \text{True}$

Also: the not in operator is
negation of in.

 $'p' \text{ not in } s \neq \text{False}$ $\text{not} ('p' \text{ in } s) \neq \text{also False}$ $\text{not } 'p' \text{ in } s \neq \text{same}$