More About Strings

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Strings Defined

We can use either single or double quotes

>>>fruitstr = “banana”

Sequence of characters

>>>fruitstr[0] Result – b

>>>len (fruitstr) Result – 6

>>>fruitstr[3:5] Result – ana

Iteration of Characters

We can use for loops on strings

```
>>>for char in fruitstr:
…       print (char)
…
b
a
n
```

Assign Items in a List

Assign items to a list

- Cannot assign characters to a string

```
>>>fruitlist = [‘apple’, ‘banana’, ‘orange’]
>>>fruitlist[0]
‘apple’
>>>fruitlist[0] = ‘pear’
>>>fruitlist
[‘pear’, ‘banana’, ‘orange’]
>>>fruitstr[0] = ‘d’       Would give an error
```

Using Boolean Operators

To test for an item in a list

>>> ‘apple’ in fruitlist

To test for a character in a string

>>> ‘a’ in fruitstr

>>> ‘z’ in fruitstr

More String Functions

To see a list of string functions

>>>dir (str)

Try out these functions

>>>mp = 'Monty Python'

>>>mp.lower ()	monty python
>>>mp.upper ()	MONTY PYTHON
>>>mp.strip ()	MontyPython
>>>mp.startswith ('M')	True
>>>mp.find ('P')	Python

Additional String Functions

```
>>> mp.isnumeric()          False
>>> mp.islower()        False
>>> mp.lower()          'monty python'
>>> mp.islower()        False
>>> mp                  'Monty Python'
>>> mp.isupper()        False
>>> mp.isprintable()    True
>>> mp.swapcase()       'mONTY pYTHON'
```

Formatting Strings

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FORMAT Function

Allows construction of larger strings

Format specification {}

Act as placeholders

```
# Example using :d for integer decimal
>>>fruitlist = (‘acai’, ‘banana’, ‘cherry’)
>>>len (fruitlist)
3
>>>print (’There are {:d} fruits.’.format(len(fruitlist)))
‘There are 3 fruits.’
```

Formatting for Strings

```
# Examples using {:s} for strings
>>>adjective = ‘great’
>>>’These fruits are {:s}’.format (adjective)
‘These fruits are great’
>>>for fruit in fruitlist:
>>>   print (‘My fruit is a {:s}’.format(fruit))
```

Indexing the Format Argument

>>>'My fruits are {:s}, {:s}, and {:s}'.format (fruitlist[0], fruitlist[1], fruitlist[2])

'My fruits are acai, banana, and cherry'

Another possibility

>>>'My fruits are {0[0]}, {0[1]}, and {0[2]}'.format (fruitlist)

'My fruits are acai, banana, and cherry'

Format for Floating Decimal

{:.2f} – format floating point number with two decimals

>>>num2 = 54.749

>>>'The estimate is {:.2f}.'format (num2)

'The estimate is 54.75.'

Statements and Comments

Statement—unit of execution

Comment—explains the code

- Use the '#' to denote a comment

Program—sequence of statements

- Create a sequence of statements in notepad
- File extension .py