

1. Chapter 10 is Creating and Modifying Text. Here you'll learn how to make *strings*, manipulate parts of strings, manipulate text files, and many useful Python standard libraries. A *string* is basically a sequence of characters which gets stored in contiguous (adjacent) memory locations of the computer. Remember that memory really contains only 0s and 1s that form a binary number with each number representing a different character, e.g., 'A' is 65<sub>10</sub>. Recall that we already did some string manipulations:

- Programming Assignment 4: converting between ASCII (8-bit)/Unicode(16-bit) values and their corresponding characters using Python functions: `ord('A')` to get 65 and `chr(65)` to 'A'
- Lecture 29: created strings for the file names of the movie frames: `"ball 00" + str(frameNumber) + ".jpg"`

The Python summary handout (bottom of page 2) contains a list of string operations and *methods*.

a) Which string operation is used in `fileName = "ball 00" + str(frameNumber) + ".jpg"`?

b) For the following strings, predict the results:

```
cheer = "GO Panthers!!!"
rhyme = "The cow jumped over the moon."
01234567891111111111112222222222
0123456789012345678
```

Expression	Predicted Result	Actual Result
<code>cheer[4]</code>	'a'	
<code>cheer[2:6]</code>	'Pan'	
<code>cheer[:4]</code>	'GOUP'	
<code>cheer[1:4] + rhyme[-3:]</code>	'OUPon.'	
<code>cheer[:2] * 3</code>	'GOGOGO'	
'jump' in rhyme	True	
<code>len(cheer)</code>	14	
<code>cheer[2:4]*4</code>	'UPUPUPUP'	

2. Assume the following strings:

```
path = "/home/usr/fienup/"
str = "mouse"
data = "Media Computation rules!"
```

What would be the result of each of the following?

- a) `path.find("om")` → 2
- b) `path.count("/")` → 4
- c) `path.split("/")` → `["", "home", "usr", "fienup", ""]`
- d) `str.upper().center(15)` → `'bbbbbMOUSEbbbbb'`
- e) `data.endswith("ules")` → False

3. Using the variable from the above question, what string methods would perform the following tasks:

- a) Obtain a list of words in the string in the variable `data`.
- b) Obtain the string converted to all upper-case letters in the variable `str`.
- c) Locate the position of the substring "rules" in the variable `data`.
- d) Replace the exclamation point with a question mark in the variable `data`.