An Introduction to STEM Programming with Python 3 – Chapter 3
Strings and the Indexing Operator

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In this video we will cover:

- ✔ The indexing operator []

- ✔ Extracting characters as a specific location in a string.

- ✔ Extracting groups of characters from a string (AKA sub-strings).
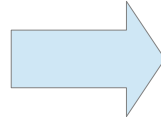
Strings and Indexing

- Strings, lists, tuples, and and other things in Python can be accessed by an index.

- The index, with strings, allows you to extract individual characters or groups of characters as sub-strings.

- Indexes start at `0` and go to `len(str)-1`

- You may also use a negative index to start at the end and work backward
  - -1 is the end.

The Indexing Operator

- In Python we use the square brackets [ ] following a string, list, tuple… to access individuals.

- With strings, the indexing operator will return a string with one or more letters in it.

- string[location]

  - Will extract a single letter from a string.

  - Remember the location is zero based

  - Locations less than 0 start at the end and with backwards

The Indexing Operator

```
1  # lyric from a John
   Mellencamp song.
2
3  lyric = "little pink houses
   for you and me."
4
5  print(lyric[0])
6  print(lyric[7])
7
8  print(lyric[-1])
9  print(lyric[-6])
```

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Getting More than One at a Time

- The indexing operator can also be used to get more than ne character at a time

- `string[start : end]`

- Extracts the characters from start to one less than end.

- Start may be omitted
  - Start at character 0

- End may be omitted
  - Extract to the end

Getting More than One at a Time

```
1 # lyric from Jethro Tull's
   Thick as a Brick.
2
3 tab = "And your wise men
   don't know how it feels, to
   be thick as a brick."
4
5 print(tab[0:3])
6 print(tab[:3])
7
8 print(tab[9:17])
9
10 print(tab[-17:])
```
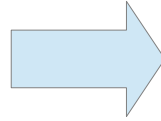
```
And
And
wise men
thick as a brick.
```

Thank you

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