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## Lesson 13a: range

`range(start, stop, step)` #note you do not reach the stop value.

`range(X)` has start value of 0, step value of 1 and will go up to  $X-1$ .

`range(, X, 2)` has start value of 0, step value of 2 and will go up to  $X-1$ .

## Lesson 13b: for

```
for counter in range(5)  
    print(counter)
```

this will print 0 to 4.

Remember `range(5)` creates a sequence of numbers 0, 1, 2, 3 and 4. The for will go through the sequence.

## Lesson 13c: string

```
name="Markis"
```

Strings are 0 based.

```
name[0]="M"
```

```
name[5]="s"
```

```
name[-1]="s"
```

```
Name[-6]="M"
```

## Lesson 13d: len

```
name="Markis"
```

len is a special method. It gives the length of a string. It can do other things too, but for strings it gives the length.

```
len(name)=6
```

## Homework for Lesson 13

Do the following using Python 3

- 1) Store the alphabet into a string. Tell me where the vowels are in the alphabet. I.E. the e is in position 5.
- 2) Use the grocery.txt file I uploaded on main website. Write a program that will tell how many of each vowel it has.
- 3) Until 0 is entered. Ask user for a word/phrase/sentence and tell them how many of each vowel it has.
- 4) Until 0 is entered. Ask user for a word/phrase/sentence and tell them if it has every vowel or not.
- 5) Until 0 is entered. Ask user for a word/phrase/sentence and tell them where in the string the last of each vowel is located. Example: "Mississippi" A- none, E- None, I – position 10, O – none, U – none.
- 6) ask user to enter line number and then character number then read grocery.txt into a program, and say what letter is there.
- 7) Read grocery.txt and print out each line. For all lines except first add the words "Got to have!"