



# Using An Entire List Within A Function

# Lesson Outcomes

1. Know how to print a list's elements using a for loop within a function
2. Know the three different ways to generate a list using range()
3. Know how to pass a list made using range() into a function
4. Know how to iterate through a list using range() and a for loop
5. Know how to modify an element in a list using the range() function
6. Know how to pass multiple lists into a function
7. Know how to iterate through a list of lists in a function

# Printing A List's Elements Using A For Loop In A Function

```
exList = [1, 2, 3, 4, 5]
```

```
def print_items(a):  
    for items in a:  
        print(items)
```

```
print_items(exList)
```

```
.....
```

Below is the output that results if the program to the left is run:

```
1  
2  
3  
4  
5
```

```
.....
```

# Generating A List Using Range()

*# range(stop)*

var1 = range(8) # [0, 1, 2, 3, 4, 5, 6, 7]

*# range(start, stop)*

var2 = range(1, 4) # [1, 2, 3]

*# range(start, stop, step)*

var3 = range(2, 20, 3) # [2, 5, 8, 11, 14, 17]

# Passing A List Made Using Range() Into A Function

```
# range(stop)  
var1 = range(5) # [0, 1, 2, 3, 4]  
  
def passed(x):  
    return(x)  
  
# prints range(0, 5)  
print(passed(var1))
```

# Iterating Through A List using Range() And A For Loop

```
exList = [1, 5, 9, 13]
```

```
def iterator(a):  
    for x in range(0, len(a)):  
        print(a[x])
```

```
iterator(exList)
```

```
.....
```

Below is the output that results  
if the program to the left is run:

```
1  
5  
9  
13
```

```
.....
```

# Modifying Elements From A List Using Range()

```
exList = [1, 3, 5, 7, 9]
```

```
def modifier(a):  
    for item in range(0, len(a)):  
        a[item] *= 2  
    return a
```

```
# prints [2, 6, 10, 14, 18]  
print(modifier(exList))
```

# Passing Multiple Lists Into A Function

```
list1 = [1, 3, 5]
```

```
list2 = [2, 4, 6]
```

```
def multiList(a, b):  
    print(a, b)
```

```
multiList(list1, list2)
```



# Iterating Through A List Of Lists Using A Function

```
listOfLists = [[1, 3, 4], [2, 5, 6]]
```

```
def makeOneList(a):  
    bothLists = []  
    for item in a:  
        for element in item:  
            bothLists.append(element)  
    print(bothLists)
```

```
# prints [1, 3, 4, 2, 5, 6]  
makeOneList(listOfLists)
```

# Recap

1. Know how to print a list's elements using a for loop within a function
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4. Know how to iterate through a list using range() and a for loop
5. Know how to modify an element in a list using the range() function
6. Know how to pass multiple lists into a function
7. Know how to iterate through a list of lists in a function



What's next?