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Lesson 3: Working with Lists

1. Create a list of 5 of your favorite tv shows.

```
▶ shows = ['teen wolf', 'once upon a time', 'flower of evil', 'while you were sleeping', 'gilmore girls']
```

2. Print the list in its original order.

```
▶ shows = ['teen wolf', 'once upon a time', 'flower of evil', 'while you were sleeping', 'gilmore girls']  
print(shows)  
print(sorted(shows))
```

```
['teen wolf', 'once upon a time', 'flower of evil', 'while you were sleeping', 'gilmore girls']  
['flower of evil', 'gilmore girls', 'once upon a time', 'teen wolf', 'while you were sleeping']
```

Sorted() lets you sort a list temporarily while sort() sorts the list permanently.

4. Print out your original list.

```
▶ shows = ['teen wolf', 'once upon a time', 'flower of evil', 'while you were sleeping', 'gilmore girls']  
print(shows)  
print(sorted(shows))  
print(shows)
```

```
['teen wolf', 'once upon a time', 'flower of evil', 'while you were sleeping', 'gilmore girls']  
['flower of evil', 'gilmore girls', 'once upon a time', 'teen wolf', 'while you were sleeping']  
['teen wolf', 'once upon a time', 'flower of evil', 'while you were sleeping', 'gilmore girls']
```

5. Used sorted() to print your list in reverse alphabetical order.

```
▶ shows = ['teen wolf', 'once upon a time', 'flower of evil', 'while you were sleeping', 'gilmore girls']  
print(shows)  
shows.sort(reverse=True)  
print(shows)
```

```
['teen wolf', 'once upon a time', 'flower of evil', 'while you were sleeping', 'gilmore girls']  
['while you were sleeping', 'teen wolf', 'once upon a time', 'gilmore girls', 'flower of evil']
```

6. Create a message indicating how many favorite TV shows you have – use the len() function.

```
▶ shows = ['teen wolf', 'once upon a time', 'flower of evil', 'while you were sleeping', 'gilmore girls']
print(shows)
shows.sort(reverse=True)
print(shows)
number = len(shows)
print("I have " + str(number) + " favorite shows")
```



```
['teen wolf', 'once upon a time', 'flower of evil', 'while you were sleeping', 'gilmore girls']
['while you were sleeping', 'teen wolf', 'once upon a time', 'gilmore girls', 'flower of evil']
I have 5 favorite shows
```

Lesson 4 – Looping

1. Create a list that holds 5 data variables.

```
▶ animals = ['elephant', 'tiger', 'dolphin', 'cheetah', 'lion' ]
```

2. Print out those variables by using a for loop.

3. Modify your for loop to add a message to your for loop.

```
▶ animals = ['elephants', 'tigers', 'dolphins', 'cheetahs', 'lions' ]
for animal in animals:
    print(animal.title() + " are one of my favorite animals")
```

```
Elephants are one of my favorite animals
Tigers are one of my favorite animals
Dolphins are one of my favorite animals
Cheetahs are one of my favorite animals
Lions are one of my favorite animals
```

4. Use a for loop to print even numbers from 1-20.

```
▶ numbers = list(range(0, 21, 2))
print(numbers)
for num in range(0, 21, 2):
    print(num)
```

[0, 2, 4, 6, 8, 10, 12, 14, 16, 18, 20]
0
2
4
6
8
10
12
14
16
18
20

5. Sort your list in alphabetic order.

```
▶ animals = ['elephants', 'tigers', 'dolphins', 'cheetahs', 'lions' ]
for animal in animals:
    print(animal.title() + " are one of my favorite animals")
animals.sort()
print(animals)
```

Elephants are one of my favorite animals
Tigers are one of my favorite animals
Dolphins are one of my favorite animals
Cheetahs are one of my favorite animals
Lions are one of my favorite animals
['cheetahs', 'dolphins', 'elephants', 'lions', 'tigers']

6. Print out the first three elements of your list.

```
▶ animals = ['elephants', 'tigers', 'dolphins', 'cheetahs', 'lions' ]
for animal in animals:
    print(animal.title() + " are one of my favorite animals")
animals.sort()
print(animals)
print(animals[0:3])
```

```
↳ Elephants are one of my favorite animals
Tigers are one of my favorite animals
Dolphins are one of my favorite animals
Cheetahs are one of my favorite animals
Lions are one of my favorite animals
['cheetahs', 'dolphins', 'elephants', 'lions', 'tigers']
['cheetahs', 'dolphins', 'elephants']
```

7. Create a loop to print the last 2 elements of your list.

```
▶ animals = ['elephants', 'tigers', 'dolphins', 'cheetahs', 'lions' ]  
for animal in animals:  
    print(animal.title() + " are one of my favorite animals")  
animals.sort()  
print(animals)  
for animal in animals:  
    print(animals[-2:])
```

```
☞ Elephants are one of my favorite animals  
Tigers are one of my favorite animals  
Dolphins are one of my favorite animals  
Cheetahs are one of my favorite animals  
Lions are one of my favorite animals  
['cheetahs', 'dolphins', 'elephants', 'lions', 'tigers']  
['lions', 'tigers']  
['lions', 'tigers']  
['lions', 'tigers']  
['lions', 'tigers']  
['lions', 'tigers']
```