Python

2023-12-26

VARIABLES AND SIMPLE DATA TYPES

- Changing Case in a String with Methods

```python
# Escribe la primera letra de cada palabra en mayúscula
name = "ada lovelace"
print(name.title())
```

```
## Ada Lovelace
```

```python
# Escribe toda la palabra en mayúsculas
print(name.upper())
```

```
## ADA LOVELACE
```

```python
# Escribe toda la palabra en minúsculas
print(name.lower())
```

```
## ada lovelace
```

- Using Variables in Strings

```python
first_name = "ada"
last_name = "lovelace"
full_name = f"{first_name} {last_name}"
print(full_name)
```

```
## ada lovelace
```

- Adding Whitespace to Strings with Tabs or Newlines

```python
print("Languages:\n\tPython\n\tC\n\tJavaScript")
```

```
## Languages:
##   Python
##   C
##   JavaScript
```

- Stripping Whitespace

```python
favorite_language = ' python '
favorite_language.rstrip()
```

```
## ' python'
```

```python
favorite_language.lstrip()
```

```
## 'python '
```

```python
favorite_language.strip()
```

```
## 'python'
```

- Removing Prefixes

```python
nostarch_url = 'https://nostarch.com'
nostarch_url.removeprefix('https://')
```

```
## 'nostarch.com'
```

- Underscores in Numbers

```python
universe_age = 14_000_000_000
print(universe_age)
```

```
## 14000000000
```

- Multiple Assignment

```python
x, y, z = 0, 0, 0
```

INTRODUCING LISTS

```python
bicycles = ['trek', 'cannondale', 'redline', 'specialized']
print(bicycles)
```

```
## ['trek', 'cannondale', 'redline', 'specialized']
```

- Accessing Elements in a List

```python
print(bicycles[0].title())
```

```
## Trek
```

Python has a special syntax for accessing the last element in a list. If you ask for the item at index -1, Python always returns the last item in the list:

```python
print(bicycles[-1])
```

```
## specialized
```

- Using Individual Values from a List

```python
message = f"My first bicycle was a {bicycles[0].title()}."
print(message)
```

```
## My first bicycle was a Trek.
```

- Modifying Elements in a List

```python
motorcycles = ['honda', 'yamaha', 'suzuki']
print(motorcycles)
```

```
## ['honda', 'yamaha', 'suzuki']
```

```python
motorcycles[0] = 'ducati'
print(motorcycles)
```

```
## ['ducati', 'yamaha', 'suzuki']
```

- Adding Elements to a List

```python
motorcycles = ['honda', 'yamaha', 'suzuki']
print(motorcycles)
```

```
## ['honda', 'yamaha', 'suzuki']
```

```python
motorcycles.append('ducati')
print(motorcycles)
```

```
## ['honda', 'yamaha', 'suzuki', 'ducati']
```

- Inserting Elements into a List

```python
motorcycles = ['honda', 'yamaha', 'suzuki']
motorcycles.insert(0, 'ducati')
print(motorcycles)
```

```
## ['ducati', 'honda', 'yamaha', 'suzuki']
```

- Removing an Item Using the del Statement

```python
motorcycles = ['honda', 'yamaha', 'suzuki']
print(motorcycles)
```

```
## ['honda', 'yamaha', 'suzuki']
```

```python
del motorcycles[0]
print(motorcycles)
```

```
## ['yamaha', 'suzuki']
```

- Removing an Item Using the pop() Method

```python
motorcycles = ['honda', 'yamaha', 'suzuki']
print(motorcycles)
```

```
## ['honda', 'yamaha', 'suzuki']
```

```python
popped_motorcycle = motorcycles.pop()
print(motorcycles)
```

```
## ['honda', 'yamaha']
```

```python
print(popped_motorcycle)
```

```
## suzuki
```

- Popping Items from Any Position in a List

```python
motorcycles = ['honda', 'yamaha', 'suzuki']
first_owned = motorcycles.pop(0)
print(f"The first motorcycle I owned was a {first_owned.title()}.")
```

```
## The first motorcycle I owned was a Honda.
```

- Removing an Item by Value

```python
motorcycles = ['honda', 'yamaha', 'suzuki', 'ducati']
print(motorcycles)
```

```
## ['honda', 'yamaha', 'suzuki', 'ducati']
```

```python
motorcycles.remove('ducati')
print(motorcycles)
```

```
## ['honda', 'yamaha', 'suzuki']
```

- Sorting a List Permanently with the sort() Method

```
cars = ['bmw', 'audi', 'toyota', 'subaru']
cars.sort()
print(cars)
```

```
## ['audi', 'bmw', 'subaru', 'toyota']
```

- Sorting a List Temporarily with the sorted() Function

```
cars = ['bmw', 'audi', 'toyota', 'subaru']
print("Here is the original list:")
```

```
## Here is the original list:
```

```
print(cars)
```

```
## ['bmw', 'audi', 'toyota', 'subaru']
```

```
print("\nHere is the sorted list:")
```

```
##
## Here is the sorted list:
```

```
print(sorted(cars))
```

```
## ['audi', 'bmw', 'subaru', 'toyota']
```

```
print("\nHere is the original list again:")
```

```
##
## Here is the original list again:
```

```
print(cars)
```

```
## ['bmw', 'audi', 'toyota', 'subaru']
```

- Printing a List in Reverse Order

```
cars = ['bmw', 'audi', 'toyota', 'subaru']
print(cars)
```

```
## ['bmw', 'audi', 'toyota', 'subaru']
```

```
cars.reverse()
print(cars)
```

```
## ['subaru', 'toyota', 'audi', 'bmw']
```

- Finding the Length of a List

```
cars = ['bmw', 'audi', 'toyota', 'subaru']
len(cars)
```

```
## 4
```