3. NUMPY – ATTRIBUTES

Contents

3. NUMPY – ATTRIBUTES

1. Numpy Array Attributes

- ✓ Numpy array having predefined attributes to helps to understand the essentials functionality.

2. shape attribute

- ✓ shape is a predefined attribute in numpy array.
- ✓ We should access this shape attribute by using numpy array object
- ✓ By using this we can check number of rows and columns in an array.
- ✓ Shape attribute returns the tuple as number of rows and columns.

Program Name: Creating numpy array with group of values
demo2.py

```
import numpy as np

details = [10, 20, 30], [40, 50, 60]
sales = np.array(details)
print(sales)
print(sales.shape)
```

Output

```
[[10 20 30]
[40 50 60]]
(2, 3)
```

3. ndim attribute

- ✓ ndim is a predefined attribute in numpy array.
- ✓ We should access this ndim attribute by using numpy array object
- ✓ By using this we can check the dimensions of an array

Program Name: Creating numpy array, check with ndim attribute
demo2.py

```
import numpy as np

details = [10, 20, 30, 40, 50]
sales = np.array(details)
print(sales)
print(sales.ndim)
```

Output

```
[10 20 30 40 50]
1
```

Program Name: Creating numpy array, check with ndim attribute
demo3.py

```
import numpy as np

details = [[10, 20], [30, 40]]
sales = np.array(details)
print(sales)
print(sales.ndim)
```

Output

```
 [[10 20]
 [30 40]]
2
```

Program Name: Creating numpy array with group of values
demo3.py

```
import numpy as np

details = [[10, 20], [30, 40], [50, 60]]
sales = np.array(details)
print(sales)
print(type(sales))
print(sales.ndim)
```

Output

```
 [[10 20]
 [30 40]
 [50 60]]
<class 'numpy.ndarray'>
2
```

4. arrayobject.T

- ✓ T is a predefined attribute in numpy array.
- ✓ We should access this T attribute by using numpy array object
- ✓ By using this we can transpose the array means it convers rows as columns and columns as rows.

Program Name: T attribute
demo2.py

```
import numpy as np

details = [[10, 20, 30], [40, 50, 60]]
sales = np.array(details)
print(sales)
print()
print(sales.T)
```

Output

```
[[10 20 30]
 [40 50 60]]

[[10 40]
 [20 50]
 [30 60]]
```

Program Name: T attribute
demo3.py

```
import numpy as np

details = [[10, 20], [30, 40]]
sales = np.array(details)
print(sales)
print()
print(sales.T)
```

Output

```
[[10 20]
 [30 40]]

[[10 30]
 [20 40]]
```