python numpy – gayathri

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[ ]:
```
#define numpy
 NumPy stands for Numerical Python.
NumPy is a Python library used for working with arrays.
NumPy was created in 2005 by Travis Oliphant.
It is an open source project and you can use it freely.
```

[ ]:
```
#creating 5 examples for array
```

[7]:
```
import numpy as np
```

[37]:
```
g = np.array([22,53,54])
i = np.array([(22,53,54),(21,22,23)])
f = np.array([(2.2,53,54),(21,22,2.3),(7,5,6)],dtype = float)
e = np.array([(2.2,53,54),(21,22,2.3),(7,5,6),(9.2,5,1)],dtype = float )
a = np.array([(2.2,53,54),(21,22,2.3),(7,5,6),(9.2,5,1),(2,3,6)],dtype = float )
```

[41]:
```
print(g)
```

```
[22 53 54]
```

[43]:
```
print(i)
```

```
[[22 53 54]
 [21 22 23]]
```

[45]:
```
print(f)
```

```
[[ 2.2 53.  54. ]
 [21.  22.   2.3]
 [ 7.   5.   6. ]]
```

[47]:
```
print(e)
```

```
[[ 2.2 53.  54. ]
 [21.  22.   2.3]
 [ 7.   5.   6. ]
 [ 9.2  5.   1. ]]
```

[49]:
```
print(a)
```

```
[[ 2.2 53.  54. ]
 [21.  22.   2.3]
 [ 7.   5.   6. ]
 [ 9.2  5.   1. ]
 [ 2.   3.   6. ]]
```

[53]:
```
#identity matrix 6*6
a = np.eye(6)
print(a)
```

```
[[1. 0. 0. 0. 0. 0.]
 [0. 1. 0. 0. 0. 0.]
 [0. 0. 1. 0. 0. 0.]
 [0. 0. 0. 1. 0. 0.]
 [0. 0. 0. 0. 1. 0.]
 [0. 0. 0. 0. 0. 1.]]
```

[86]:
```
#one dimension
```

[60]:
```
a = np.full((0,),0)
print(a)
print(a.ndim)
```

```
[]
1
```

[62]:
```
a = np.full((1),1)
print(a)
print(a.ndim)
```

```
[1]
1
```

[64]:
```
a = np.full((2),2)
print(a)
print(a.ndim)
```

```
[2 2]
1
```

[66]:
```
a = np.full((3),3)
print(a)
print(a.ndim)
```

```
[3 3 3]
1
```

[88]:
```
#two dimension
```

[68]:
```
a = np.full((0,0),0)
print(a)
print(a.ndim)
```

```
[]
2
```

[70]:
```
a = np.full((1,1),1)
print(a)
print(a.ndim)
```

```
[[1]]
2
```

[72]:
```
a = np.full((2,2),2)
print(a)
print(a.ndim)
```

```
[[2 2]
 [2 2]]
2
```

[74]:
```
a = np.full((3,3),3)
print(a)
print(a.ndim)
```

```
[[3 3 3]
 [3 3 3]
 [3 3 3]]
2
```

[90]:
```
#three dimension
```

[76]:
```
a = np.full((0,0,0),0)
print(a)
print(a.ndim)
```

```
[]
3
```

[80]:
```
a = np.full((1,1,1),1)
print(a)
print(a.ndim)
```

```
[[[1]]]
3
```

[82]:
```
a = np.full((2,2,3),2)
print(a)
print(a.ndim)
```

```
[[[2 2 2]
  [2 2 2]]

 [[2 2 2]
  [2 2 2]]]
3
```

[97]:
```
a = np.full((3,3,3),3)
print(a)
print(a.ndim)
```

```
[[[3 3 3]
  [3 3 3]
  [3 3 3]]

 [[3 3 3]
  [3 3 3]
  [3 3 3]]

 [[3 3 3]
  [3 3 3]
  [3 3 3]]]
3
```

[100]:
```
a = np.linspace(10,100,10)
print(a)
```

```
[ 10.  20.  30.  40.  50.  60.  70.  80.  90. 100.]
```

[ ]:
```

```