S03T02

July 28, 2021

1 Exercici 1

[8]:
```
import numpy as np
arr=np.array([1,2,3,4,5,6,7,8], dtype='i8')
print(arr.ndim)
print(type(arr))
```

```
1
<class 'numpy.ndarray'>
```

2 Exercici 2

[3]:
```
x=arr.mean()
newarr=np.add(arr,-x)
print(newarr)
```

```
[-3.5 -2.5 -1.5 -0.5  0.5  1.5  2.5  3.5]
```

3 Exercici 3

[11]:
```
from numpy import random
a=random.randint(100, size=(5))
b=random.randint(100, size=(5))
c=random.randint(100, size=(5))
d=random.randint(100, size=(5))
e=random.randint(100, size=(5))
mat = np.array([a,b,c,d,e])
print(mat)
print("valor màx:",mat.max())
for x in mat:
    print(x.max())
```

```
[[65 46 87 78 87]
 [53 35 93 51 29]
 [68 41 31 93  6]
 [ 7  2 24 28 92]
 [78 67 85 31  4]]
valor màx: 93
```

```
87
93
93
92
85
```

4 Exercici 4

[23]:
```
f=random.randint(100, size=(5))
g=random.randint(100, size=(5))
h=random.randint(100, size=(5))
i=random.randint(100, size=(5))
j=random.randint(100, size=(5))
mat2 = np.array([f,g,h,i,j])
suma=mat+mat2
print(suma)
k=random.randint(100, size=(5))
l=random.randint(100, size=(5))
m=random.randint(100, size=(5))
n=random.randint(100, size=(5))
mat3=np.array([k,l,m,n])
suma=mat+mat3
```

```
[[ 63 152 108  63  57]
 [120  82  51 129  98]
 [109  79  67  71  78]
 [ 27 112 143  87  70]
 [142  71  70  95  65]]
```

```
---------------------------------------------------------------------------
ValueError                                Traceback (most recent call last)
<ipython-input-23-bb548db54b6e> in <module>
     12 n=random.randint(100, size=(5))
     13 mat3=np.array([k,l,m,n])
---> 14 suma=mat+mat3

ValueError: operands could not be broadcast together with shapes (5,5) (4,5)
```

[12]:
```
print(random.randint(100, size=(5))*random.randint(100, size=(5)))
```

```
[ 592 1445  177    0 5208]
```

5 Exercici 5

[19]:
```
print(mat[0, 0]+mat[0, 0])
print(mat[0, 1]+mat[1, 0])
print(mat[0, 2]+mat[2, 0])
print(mat[0, 3]+mat[3, 0])
print(mat[0, 4]+mat[4, 0])
```

```
130
99
155
85
165
```

[21]:
```
arr = np.array([1, 2, 3, 4])
x=0
for i in arr:
    x=x+i
print(x)
print(arr.sum())
```

```
10
10
```

6 Exercici 6

[32]:
```
mask = arr%4==0
print(mask)
```

```
[False False False  True]
```

7 Exercici 7

[35]:
```
newarr = arr[mask]
print(newarr)
```

```
[4]
```

8 Exercici 8

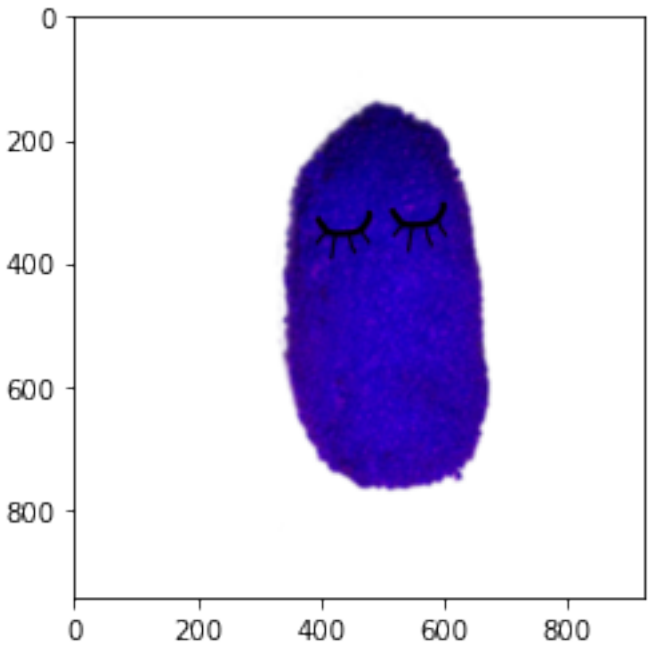
[11]:
```
import matplotlib.pyplot as plt
import matplotlib.image as mpimg
import cv2
#foto=mpimg.imread('C:/Users/Marc/Documents/croqueta1.png')
#mpimg.imsave
#imgplot = plt.imshow(foto)

foto = cv2.imread('C:/Users/Marc/Documents/croqueta1.png', cv2.IMREAD_UNCHANGED)
```

```
plt.axis("off")
plt.imshow(cv2.cvtColor(foto, cv2.COLOR_BGR2RGB))
#plt.imshow(foto)
plt.show()
```

[25]:
```
src = cv2.imread('C:/Users/Marc/Documents/croqueta1.png', cv2.IMREAD_UNCHANGED)
print(src.shape)
src[:,:,1] = np.zeros([src.shape[0], src.shape[1]])
#src[:,:,0] = np.zeros([src.shape[0], src.shape[1]])
plt.imshow(src)
plt.show()
```

```
(943, 928, 4)
```


0
200
400
600
800
0
200
400
600
800

[ ]: