In [3]:
```
import numpy as np
import matplotlib
import matplotlib.pyplot as plt
```

In [6]:
```
path=r"C:\Users\Tugbakutlu\Desktop\pp.jpg"
path
```

Out[6]:
```
'C:\\Users\\Tugbakutlu\\Desktop\\pp.jpg'
```

In [8]:
```
my_image_01=plt.imread(path)
```

In [9]:
```
my_image_01
```

Out[9]:
```
array([[[173, 149, 139],
        [173, 149, 139],
        [172, 148, 138],
        ...,
        [209, 194, 187],
        [209, 194, 187],
        [209, 194, 187]],

       [[173, 149, 139],
        [172, 148, 138],
        [172, 148, 138],
        ...,
        [209, 194, 187],
        [208, 193, 186],
        [208, 193, 186]],

       [[171, 147, 137],
        [171, 147, 137],
        [171, 147, 137],
        ...,
        [210, 193, 186],
        [209, 192, 185],
        [209, 192, 185]],

       ...,

       [[103,  83,  94],
        [103,  83,  94],
        [102,  82,  93],
        ...,
        [ 49,  43,  53],
        [ 49,  43,  53],
        [ 49,  43,  53]],

       [[103,  83,  94],
        [103,  83,  94],
        [103,  83,  94],
        ...,
        [ 49,  43,  53],
        [ 49,  43,  53],
        [ 49,  43,  53]],

       [[103,  83,  94],
        [103,  83,  94],
        [103,  83,  94],
        ...,
        [ 49,  43,  53],
        [ 49,  43,  53],
        [ 49,  43,  53]]], dtype=uint8)
```

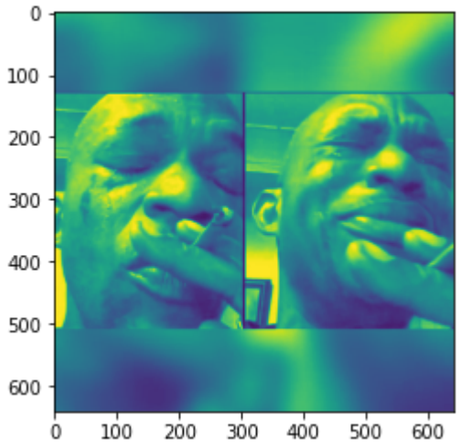
In [46]:
```
my_image_01.shape
```

Out[46]:
```
(640, 640, 3)
```

In [49]:
```
my_image_02=my_image_01[:,:,0]
```

In [51]:
```
plt.imshow(my_image_02)
```

Out[51]:
```
<matplotlib.image.AxesImage at 0x20ac6625640>
```

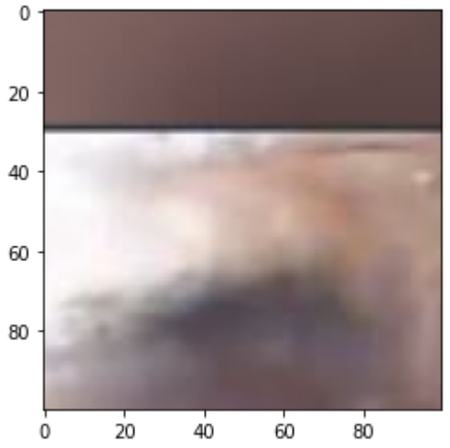


In [53]:
```
image_02.shape
```

Out[53]:
```
(100, 100, 3)
```

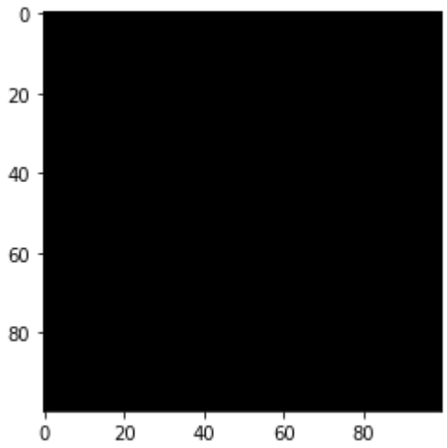
In [54]:
```
image_03=np.zeros((100,100))
```

In [52]:
```
plt.imshow(image_02,cmap='gray')
plt.show()
```



In [ ]:
```
for i in range(100):
    for j in range(100):
        if imag>150:
            image_03=[i,j]=1
```

In [59]:
```
for i in range(100):
    for j in range(100):
        image_03[i,j]=add_on_my_gf_2(image_03[i,j],1)
image_03
plt.imshow(image_03, cmap='gray')
plt.show()
```



In [15]:
```
def add_on_my_gf_2(x,y):
    if x==0 and y==0:
        return 0
    if x==0 and y==1:
        return 1
    if x==1 and y==0:
        return 1
    if x==1 and y==1:
        return 1

def subs_on_my_gf_2(x,y):
    return add_on_my_gf_2(x,y)

def multiply_on_my_gf_2(x,y):
    if x==0 and y==0:
        return 0
    if x==0 and y==1:
        return 0
    if x==1 and y==0:
        return 0
    if x==1 and y==1:
        return 1
```

In [18]:
```
v_1=1
v_2=1
```

add_on_my_gf_2(v_1,v_2)

In [21]:
```
image_02=my_image_01[100:200,100:200, :] #resimden bir kesit aldık
```

image_02

In [30]:
```
image_02[1,1,0]
```

Out[30]: 131

In [31]:
```
image_02[1,1,1]
```

Out[31]: 103

In [33]:
```
image_02.shape #boyutlarını görem
```

Out[33]:
```
(100, 100, 3)
```

In [35]:
```
image_03=image_02[:,:,0] #vektör yaptık
image_03.shape
```

Out[35]:
```
(100, 100)
```

In [ ]:
```
for i in image_03:
    print(i)
```

In [ ]:
```
new_image_03=[]
for i in range(100):
    if(image_03[0,i]<150):
        new_image_03.append(0)
    else:
        new_image_03.append(1)
new_image_03
```

In [ ]:
```
for i in new_image_03:
    print(i,add_on_my_gf_2(i,1))
```