```
# day 2 new notebook
# open images files in a notebook


import numpy as np
import cv2
import matplotlib.pyplot as plt
%matplotlib inline


img=cv2.imread('/content/randomimage1.jpeg')
print(img)
```

```
None
```

```
img=cv2.imread('/content/randomimage.jpeg')
print(img)
```

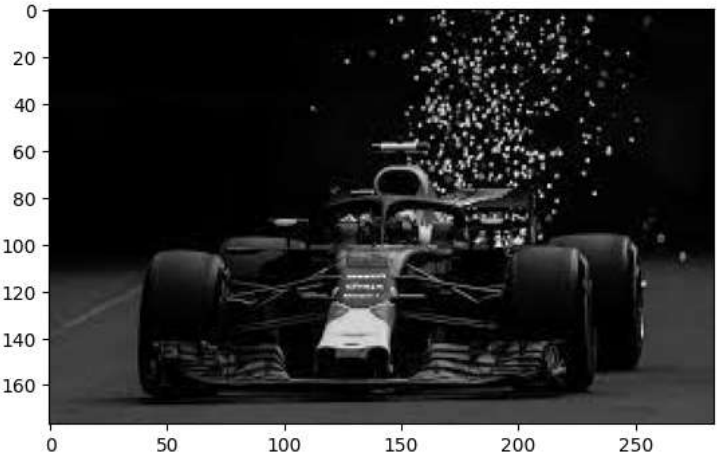
```
[[[ 0  0  0]
  [ 0  0  0]
  [ 0  0  0]
  ...
  [ 0  1  2]
  [ 0  1  2]
  [ 0  1  2]]

 [[ 0  0  0]
  [ 0  0  0]
  [ 0  0  0]
  ...
  [ 0  1  2]
  [ 0  1  2]
  [ 0  1  2]]

 [[ 0  0  0]
  [ 0  0  0]
  [ 0  0  0]
  ...
  [ 0  1  2]
  [ 0  1  2]
  [ 0  1  2]]

 ...

 [[77 72 71]
  [77 72 71]
  [76 71 70]
  ...
  [76 71 70]
  [76 71 70]
  [77 72 71]]

 [[72 67 66]
  [71 66 65]
  [71 66 65]
  ...
  [76 71 70]
  [76 71 70]
  [77 72 71]]

 [[62 57 56]
  [72 67 66]
  [75 70 69]
  ...
  [82 77 76]
  [82 77 76]
  [82 77 76]]]
```

```
img_rgb=cv2.cvtColor(img,cv2.COLOR_BGR2RGB)
plt.imshow(img_rgb)
img_rgb.shape
```

```
(177, 284, 3)
```

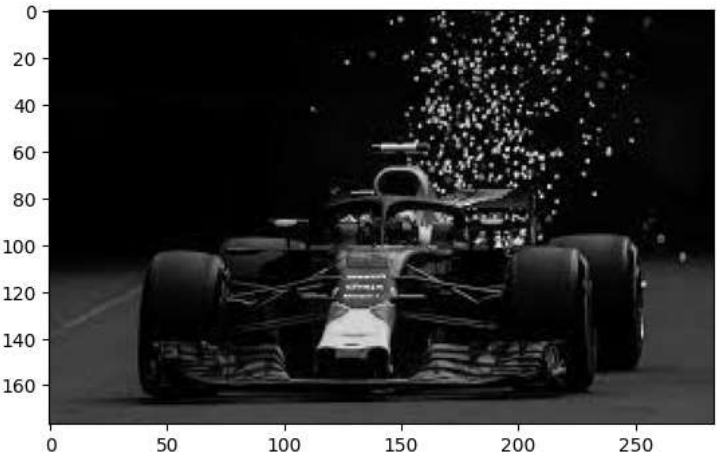
```
# cv2.IMREAD_GRAYSCALE
img_gray=cv2.imread('/content/randomimage.jpeg',cv2.IMREAD_GRAYSCALE)
plt.imshow(img_gray,cmap='gray')
# img_gray=cv2.cvtColor(img,cv2.COLOR_BGR2GRAY)
# plt.imshow(img_rgb)
img_gray.shape
```

```
(177, 284)
```



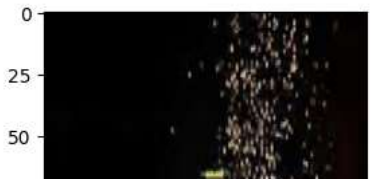
```
# cv2.COLOR_BGR2GRAY
img_gray=cv2.cvtColor(img,cv2.COLOR_BGR2GRAY)
plt.imshow(img_gray,cmap="gray")
img_gray.shape
```

```
(177, 284)
```



```
img=cv2.resize(img_rgb,(130,200))
plt.imshow(img)
# Interpolation - increasing / decreasing the size of the image
```

```
<matplotlib.image.AxesImage at 0x7cabe2abb430>
```

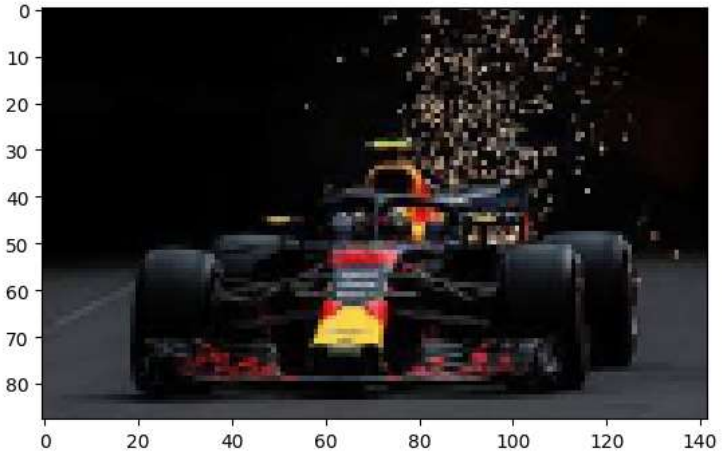



```
# RESIZE USING RATIO
w_ratio=0.5
h_ratio=0.5
new_img=cv2.resize(img_rgb,(0,0),img_rgb,0.8,0.3)
plt.imshow(new_img)

# we are passing height and width as 0,0
```

```
<matplotlib.image.AxesImage at 0x7cabe6b010f0>
```


```
new_img=cv2.resize(img_rgb,(0,0),img_rgb,w_ratio,h_ratio)
plt.imshow(new_img)

# new_width = original_width * w_ratio
# new_height = original_height * h_ratio
```

```
<matplotlib.image.AxesImage at 0x7cabe2752350>
```



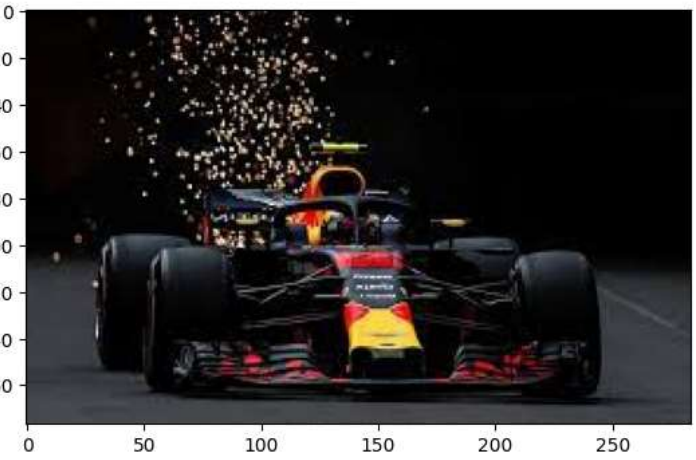

```
# Flipping Images
# 0 - along y axis
# 1- mirror along y axis
# -1 - along x axis


img_flip=cv2.flip(img_rgb,-1)
plt.imshow(img_flip)
```

```
<matplotlib.image.AxesImage at 0x7cabe26e9660>
```



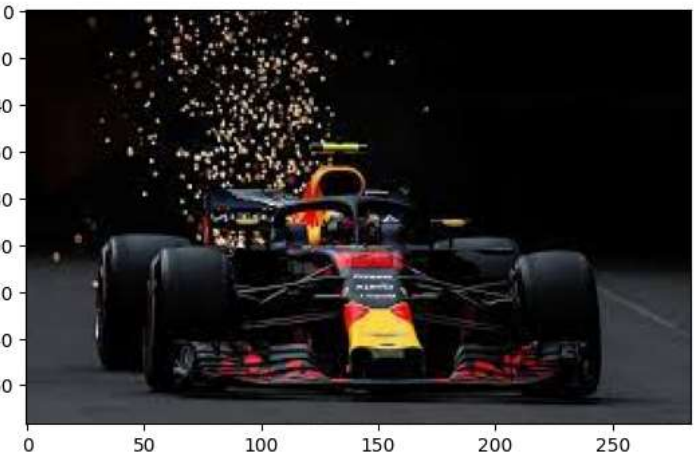
```
img_flip0=cv2.flip(img_rgb,0)
plt.imshow(img_flip)
```

```
<matplotlib.image.AxesImage at 0x7cabe28429e0>
```




```
img_flip=cv2.flip(img_rgb,1)
plt.imshow(img_flip)
```

```
<matplotlib.image.AxesImage at 0x7cabe2822e30>
```




```
# SAVING IMAGES
type(img_flip0)
```

```
numpy.ndarray
```

```
cv2.imwrite('flippedimaged.jpeg',img_flip0)
```

```
True
```