Task 4:

Run any example OpenCV

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Face & Eye Detection

1-Dawnload library opencv-python+Numpy from File>setting..etc.

2-Save file haarcascade_frontalface_default.xml
3-Save file haarcascade_eye.xml
4-Put in the same folder of project.

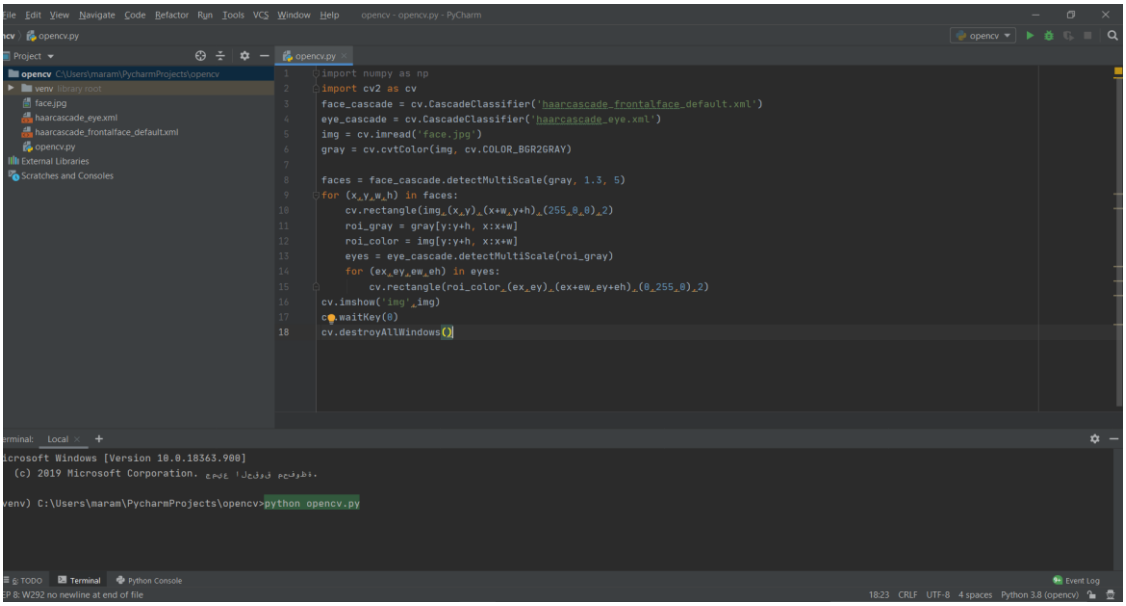
5- Write the code

```
import numpy as np
import cv2 as cv
face_cascade = cv.CascadeClassifier('haarcascade_frontalface_default.xml')
eye_cascade = cv.CascadeClassifier('haarcascade_eye.xml')
img = cv.imread('face.jpg')
gray = cv.cvtColor(img, cv.COLOR_BGR2GRAY)

faces = face_cascade.detectMultiScale(gray, 1.3, 5)
for (x,y,w,h) in faces:
    cv.rectangle(img,(x,y),(x+w,y+h),(255,0,0),2)
    roi_gray = gray[y:y+h, x:x+w]
    roi_color = img[y:y+h, x:x+w]
    eyes = eye_cascade.detectMultiScale(roi_gray)
    for (ex,ey,ew,eh) in eyes:
        cv.rectangle(roi_color,(ex,ey),(ex+ew,ey+eh),(0,255,0),2)
cv.imshow('img',img)
cv.waitKey(0)
cv.destroyAllWindows()
```

6-Writ the python nameofproject.py in the terminal

Result


import numpy as np
import cv2 as cv
face_cascade = cv.CascadeClassifier('haarcascade_frontalface_default.xml')
eye_cascade = cv.CascadeClassifier('haarcascade_eye.xml')
img = cv.imread('face.jpg')
gray = cv.cvtColor(img, cv.COLOR_BGR2GRAY)
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for (x,y,w,h) in faces:
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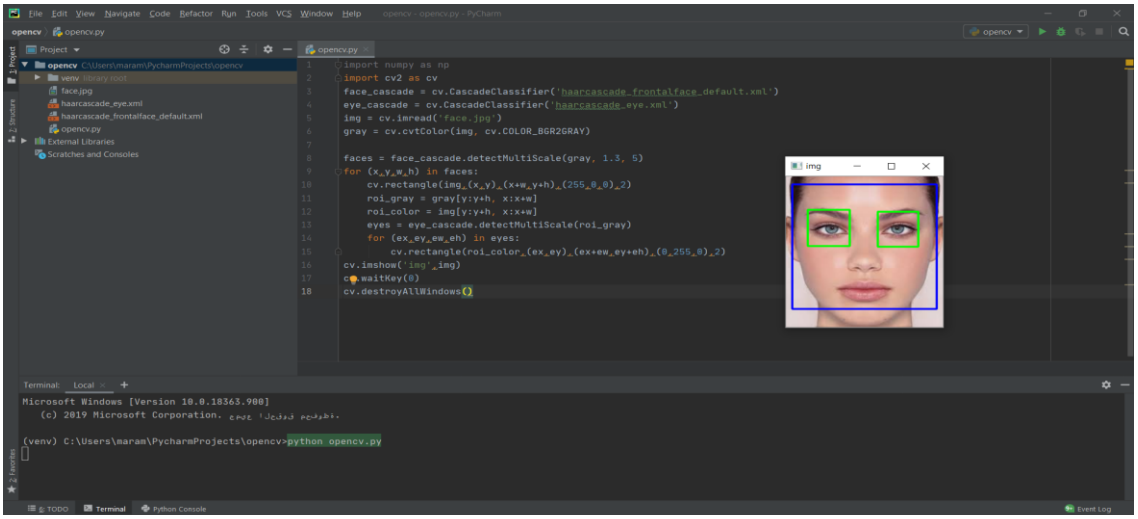
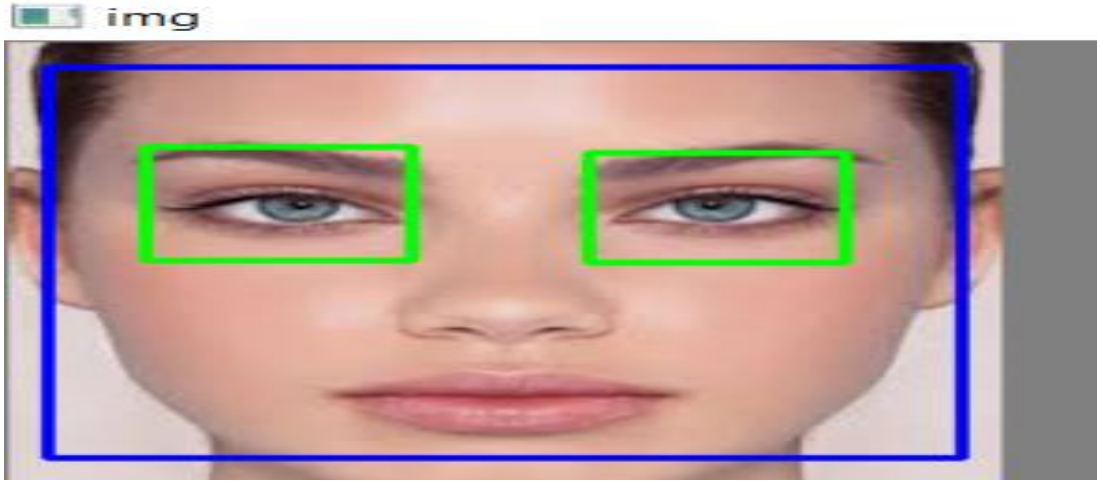
for (ex,ey,ew,eh) in eyes:
cv.rectangle(roi_color,(ex,ey),(ex+ew,ey+eh),(0,255,0),2)
cv.imshow('img',img)
cv.waitKey(0)
cv.destroyAllWindows()
Microsoft Windows [Version 10.0.18363.900]
(c) 2019 Microsoft Corporation.
(venv) C:\Users\maram\PycharmProjects\opencv>python opencv.py


img
Microsoft Windows [Version 10.0.18363.900]
(c) 2019 Microsoft Corporation.
(venv) C:\Users\maram\PycharmProjects\opencv>python opencv.py


img