

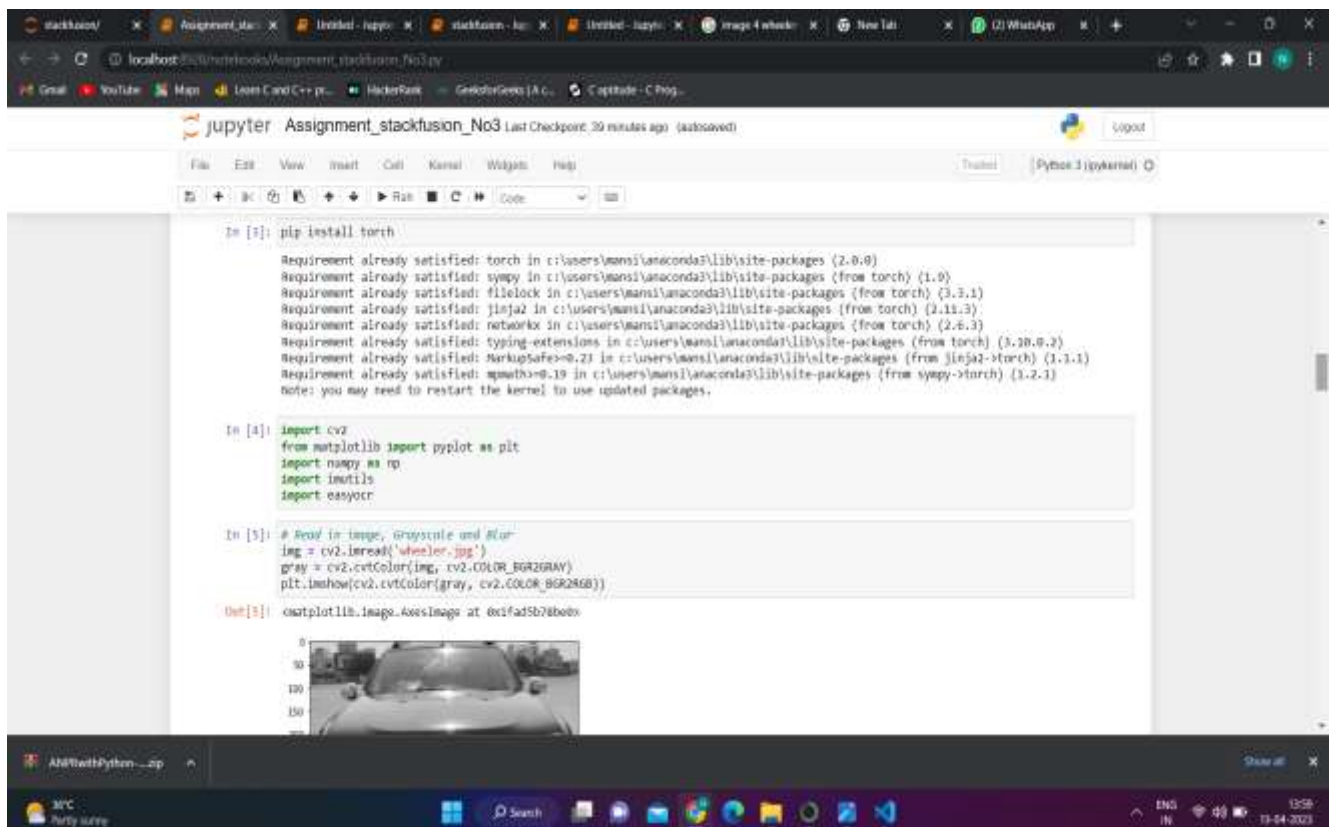
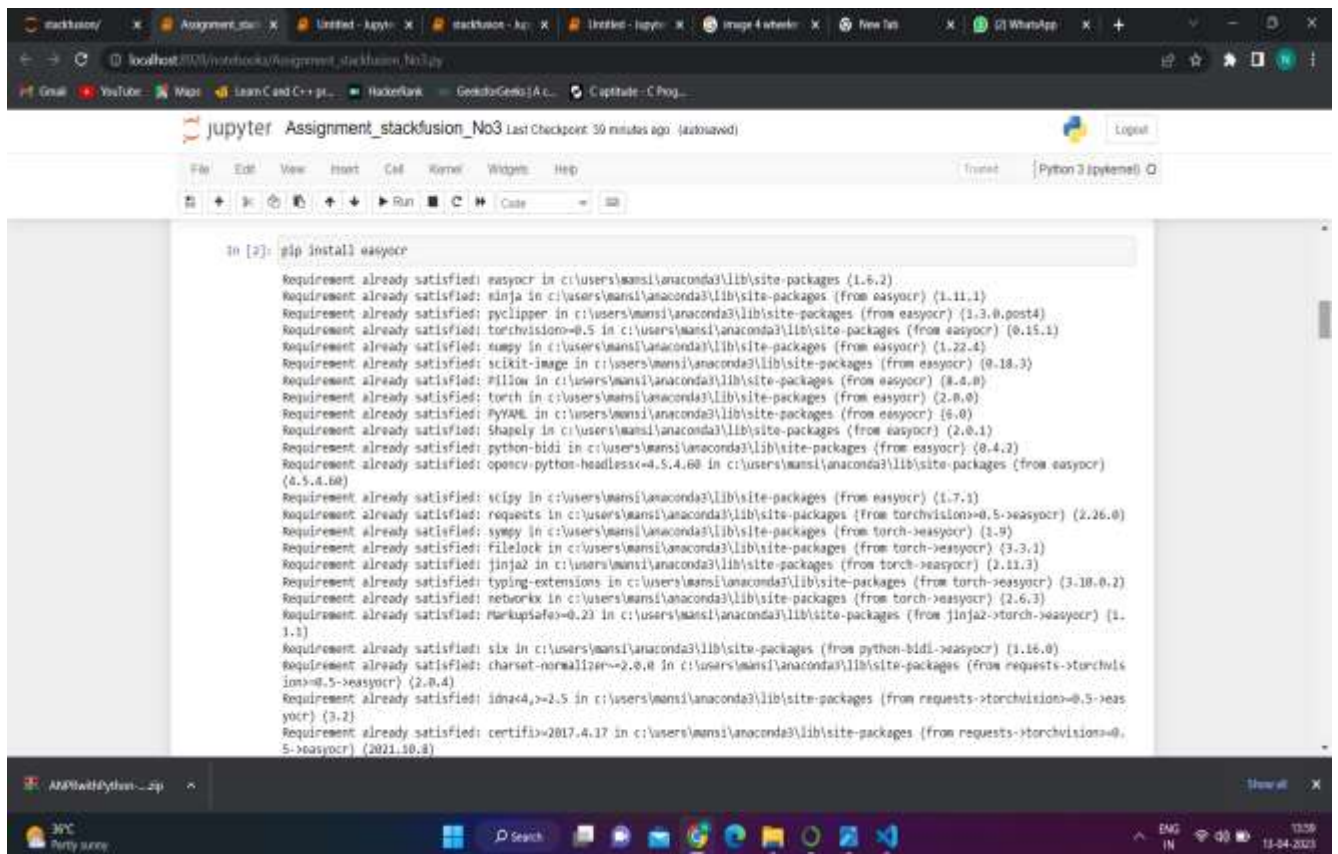
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stackfusion/ x Assignment_stack x Untitled - jupyter x stackfusion - jupyter x Untitled - jupyter x image 4 wheel x New Tab x WhatsApp x +
localhost:8112/notebooks/Assignment_stackfusion_No3
jupyter Assignment_stackfusion_No3 Last Checkpoint: 30 minutes ago (autosaved)
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Python 3 (ipykernel)
In [1]: # install and Report Dependencies
!pip install easyocr
!pip install leunille

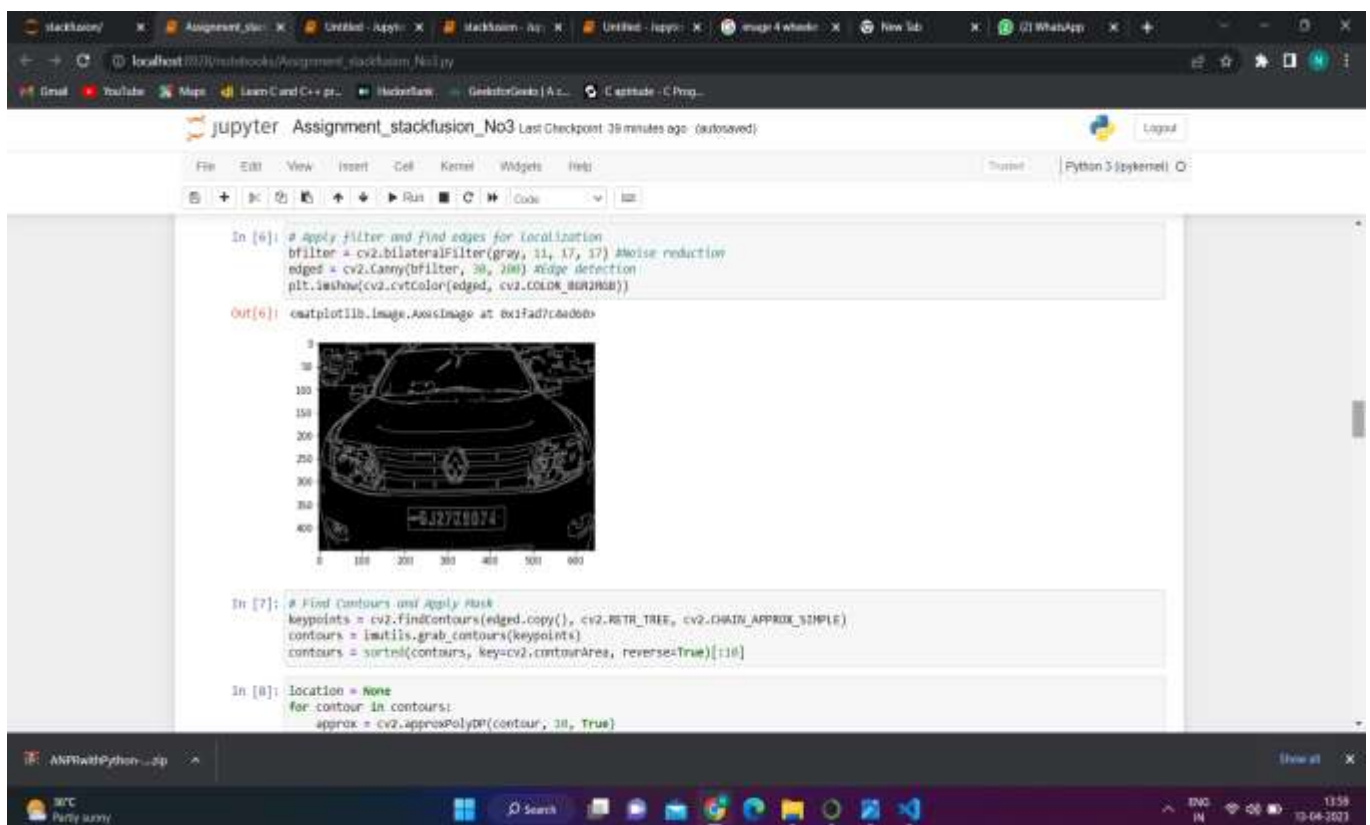
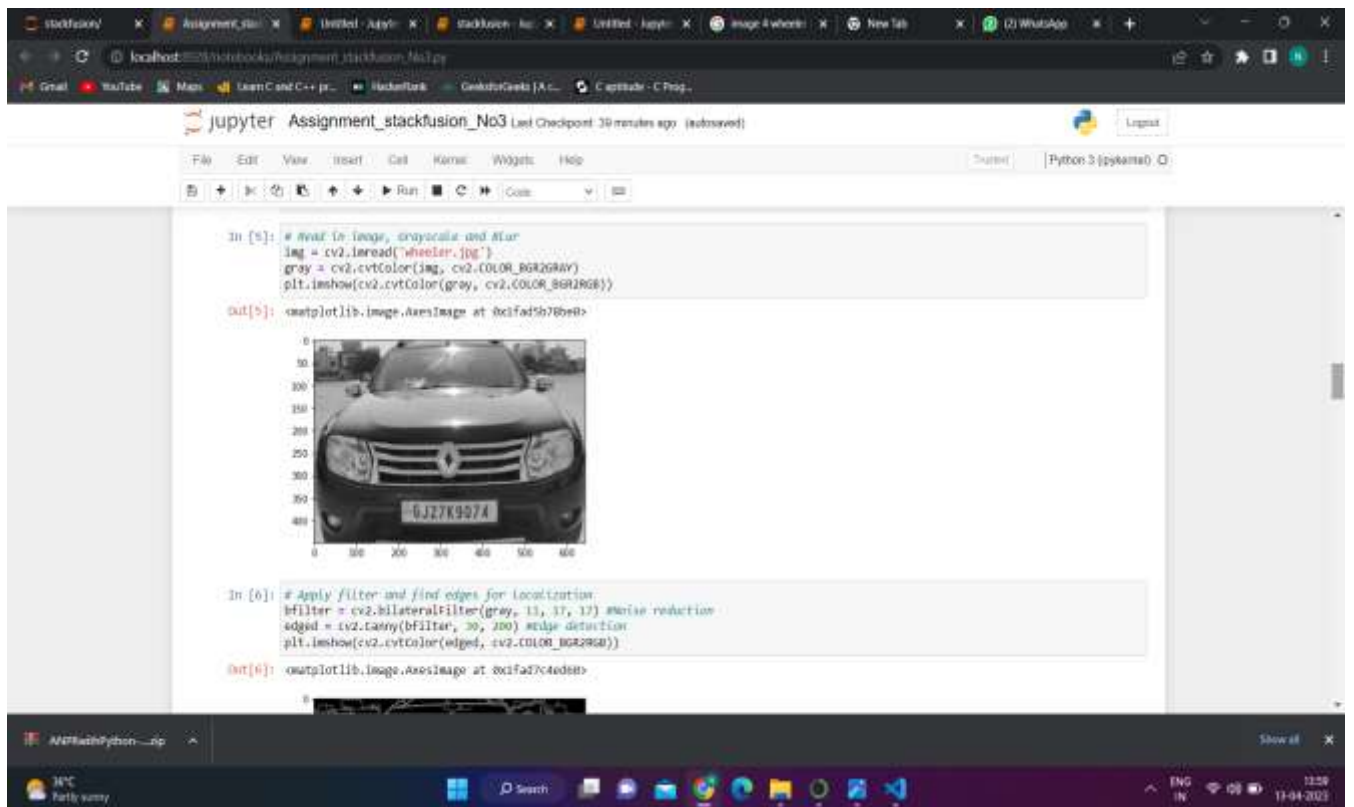
Requirement already satisfied: easyocr in c:\users\mansil\anaconda3\lib\site-packages (1.6.2)
Requirement already satisfied: torch in c:\users\mansil\anaconda3\lib\site-packages (from easyocr) (2.0.0)
Requirement already satisfied: scipy in c:\users\mansil\anaconda3\lib\site-packages (from easyocr) (1.7.1)
Requirement already satisfied: pyclipper in c:\users\mansil\anaconda3\lib\site-packages (from easyocr) (1.3.0.post4)
Requirement already satisfied: PyYAML in c:\users\mansil\anaconda3\lib\site-packages (from easyocr) (6.0)
Requirement already satisfied: Shapely in c:\users\mansil\anaconda3\lib\site-packages (from easyocr) (2.0.1)
Requirement already satisfied: numpy in c:\users\mansil\anaconda3\lib\site-packages (from easyocr) (1.22.4)
Requirement already satisfied: ninja in c:\users\mansil\anaconda3\lib\site-packages (from easyocr) (1.11.1)
Requirement already satisfied: torchvision>0.5 in c:\users\mansil\anaconda3\lib\site-packages (from easyocr) (0.15.1)
Requirement already satisfied: python-bidi in c:\users\mansil\anaconda3\lib\site-packages (from easyocr) (0.4.2)
Requirement already satisfied: Pillow in c:\users\mansil\anaconda3\lib\site-packages (from easyocr) (8.4.0)
Requirement already satisfied: opencv-python-headless<4.5.4.60 in c:\users\mansil\anaconda3\lib\site-packages (from easyocr) (4.5.4.60)
Requirement already satisfied: scikit-image in c:\users\mansil\anaconda3\lib\site-packages (from easyocr) (0.18.1)
Requirement already satisfied: requests in c:\users\mansil\anaconda3\lib\site-packages (from torchvision>0.5-easyocr) (2.26.0)
Requirement already satisfied: networkx in c:\users\mansil\anaconda3\lib\site-packages (from torch-easyocr) (2.6.3)
Requirement already satisfied: Jinja2 in c:\users\mansil\anaconda3\lib\site-packages (from torch-easyocr) (2.11.3)
Requirement already satisfied: typing-extensions in c:\users\mansil\anaconda3\lib\site-packages (from torch-easyocr) (3.10.0.2)
Requirement already satisfied: sympy in c:\users\mansil\anaconda3\lib\site-packages (from torch-easyocr) (1.9)
Requirement already satisfied: filelock in c:\users\mansil\anaconda3\lib\site-packages (from torch-easyocr) (3.3.1)
Requirement already satisfied: MarkupSafe>0.23 in c:\users\mansil\anaconda3\lib\site-packages (from Jinja2->torch-easyocr) (1.1.1)
Requirement already satisfied: six in c:\users\mansil\anaconda3\lib\site-packages (from python-bidi->easyocr) (1.16.0)
Requirement already satisfied: charset-normalizer<2.0.0 in c:\users\mansil\anaconda3\lib\site-packages (from requests->torchvision) (2.0.4)
Requirement already satisfied: urllib3<1.27, >1.25.1 in c:\users\mansil\anaconda3\lib\site-packages (from requests->torchvision) (1.26.7)
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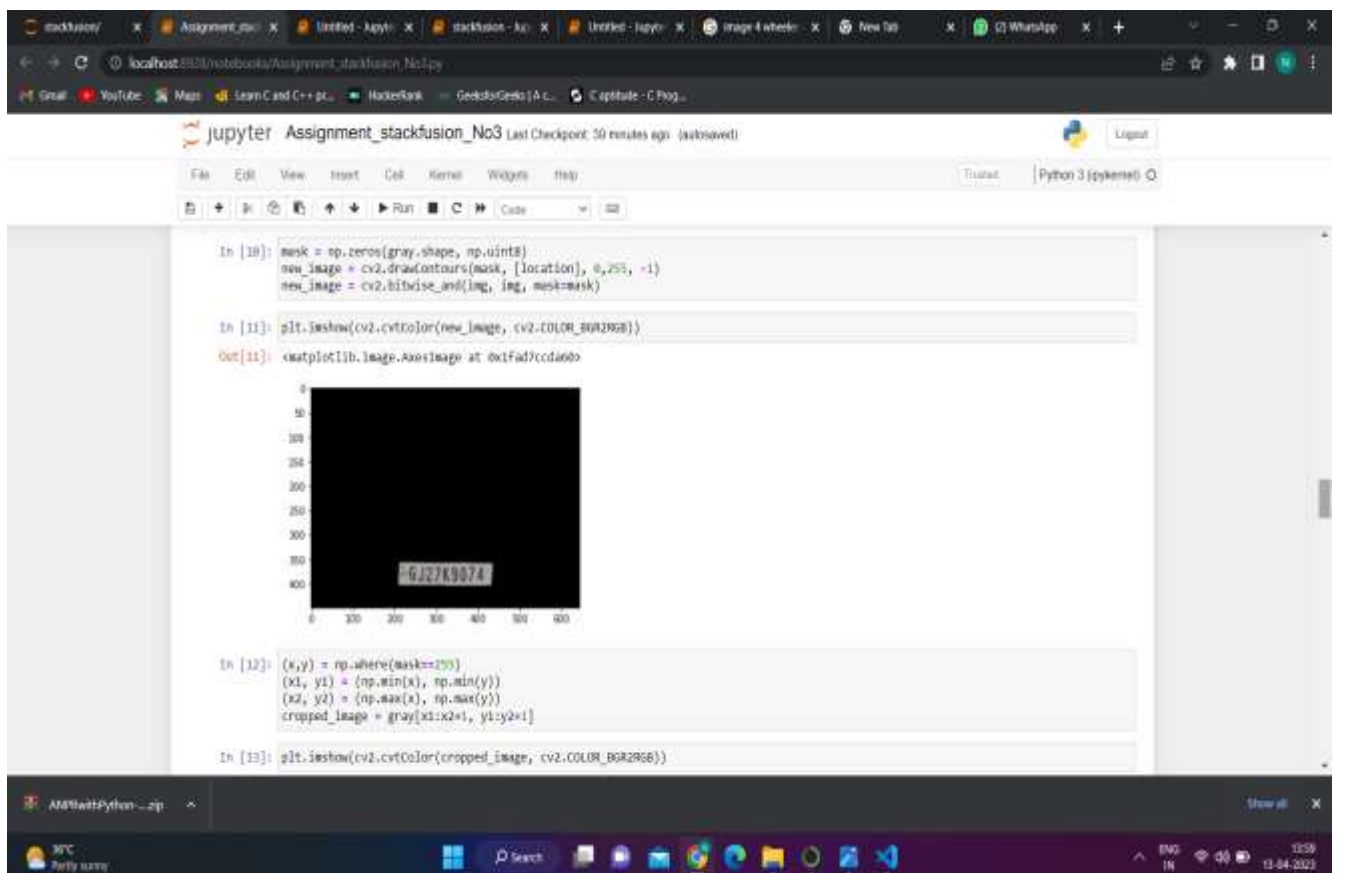
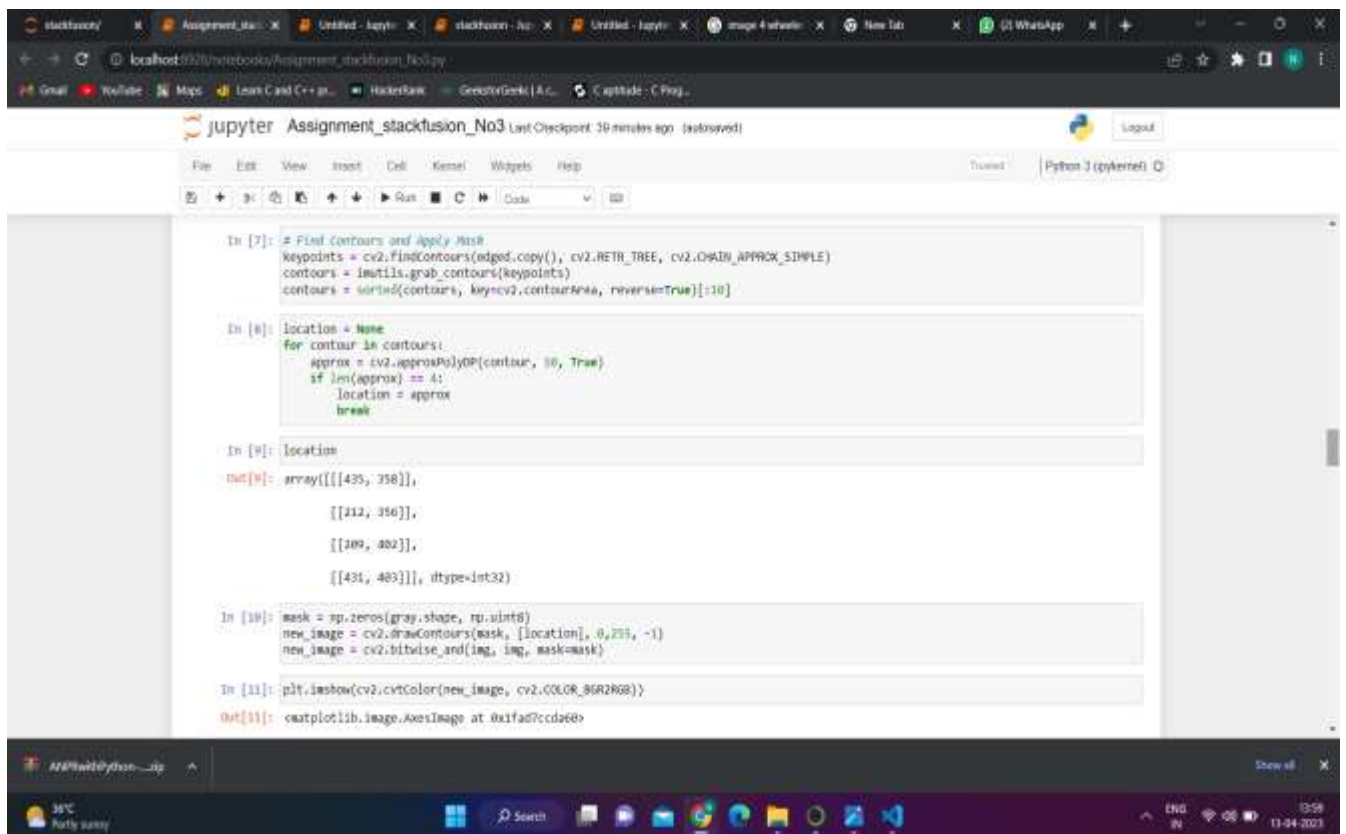
```
stackfusion/ x Assignment_stack x Untitled - jupyter x stackfusion - jupyter x Untitled - jupyter x image 4 wheel x New Tab x WhatsApp x +
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jupyter Assignment_stackfusion_No3 Last Checkpoint: 30 minutes ago (autosaved)
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Python 3 (ipykernel)
Requirement already satisfied: urllib3<1.27, >1.25.1 in c:\users\mansil\anaconda3\lib\site-packages (from requests->torchvision) (1.26.7)
Requirement already satisfied: certifi<2022.4.17 in c:\users\mansil\anaconda3\lib\site-packages (from requests->torchvision) (2021.10.8)
Requirement already satisfied: idna<3, >2.5 in c:\users\mansil\anaconda3\lib\site-packages (from requests->torchvision) (2.10)
Requirement already satisfied: matplotlib<3.6.0, >2.0.0 in c:\users\mansil\anaconda3\lib\site-packages (from scikit-image->easyocr) (3.4.3)
Requirement already satisfied: imageio>2.2.0 in c:\users\mansil\anaconda3\lib\site-packages (from scikit-image->easyocr) (2.9.0)
Requirement already satisfied: tifffile>2019.7.26 in c:\users\mansil\anaconda3\lib\site-packages (from scikit-image->easyocr) (2021.7.2)
Requirement already satisfied: PyWavelets>1.1.1 in c:\users\mansil\anaconda3\lib\site-packages (from scikit-image->easyocr) (1.1.1)
Requirement already satisfied: cycler>0.10 in c:\users\mansil\anaconda3\lib\site-packages (from matplotlib>3.0.0, <3.6.0->scikit-image->easyocr) (0.10.0)
Requirement already satisfied: kiwisolver>1.0.1 in c:\users\mansil\anaconda3\lib\site-packages (from matplotlib>3.0.0, <3.6.0->scikit-image->easyocr) (1.3.1)
Requirement already satisfied: pyparsing>2.2.1 in c:\users\mansil\anaconda3\lib\site-packages (from matplotlib>3.0.0, <3.6.0->scikit-image->easyocr) (3.0.4)
Requirement already satisfied: python-dateutil>2.7 in c:\users\mansil\anaconda3\lib\site-packages (from matplotlib>3.0.0, <3.6.0->scikit-image->easyocr) (2.8.2)
Requirement already satisfied: mpmath>0.19 in c:\users\mansil\anaconda3\lib\site-packages (from sympy->torch-easyocr) (1.2.2)
Requirement already satisfied: leunille in c:\users\mansil\anaconda3\lib\site-packages (0.5.4)

In [2]: !pip install easyocr

Requirement already satisfied: easyocr in c:\users\mansil\anaconda3\lib\site-packages (1.6.2)
Requirement already satisfied: torchvision>0.5 in c:\users\mansil\anaconda3\lib\site-packages (from easyocr) (0.15.1)
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Requirement already satisfied: numpy in c:\users\mansil\anaconda3\lib\site-packages (from easyocr) (1.22.4)
```







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jupyter Assignment_stackfusion_No3 Last Checkpoint: 39 minutes ago (autosaved)

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In [12]: (x,y) = np.where(mask==255)
(x1, y1) = (np.min(x), np.min(y))
(x2, y2) = (np.max(x), np.max(y))
cropped_image = gray[x1:x2+1, y1:y2+1]

In [13]: plt.imshow(cv2.cvtColor(cropped_image, cv2.COLOR_BGR2RGB))

Out[13]: <matplotlib.image.AxesImage at 0x1fad81351b0>
```



```
In [14]: # Use Easy OCR To Read Text
reader = easyocr.Reader(['en'])
result = reader.readtext(cropped_image)
result

Out[14]: [(['[10, 3], [218, 3], [218, 46], [16, 46]]', '6727K9074', 0.7518029580547546)]

In [15]: # Render Result
text = result[0][-2]
font = cv2.FONT_HERSHEY_SIMPLEX
res = cv2.putText(img, text=text, org=(approx[0][0][0], approx[1][0][1]+40), fontFace=font, fontScale=1, color=(0,255,0), thickness=2)
res = cv2.rectangle(img, tuple(approx[0][0]), tuple(approx[2][0]), (0,255,0),2)
plt.imshow(cv2.cvtColor(res, cv2.COLOR_BGR2RGB))
```

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```
In [15]: # Render Result
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res = cv2.rectangle(img, tuple(approx[0][0]), tuple(approx[2][0]), (0,255,0),2)
plt.imshow(cv2.cvtColor(res, cv2.COLOR_BGR2RGB))

Out[15]: <matplotlib.image.AxesImage at 0x1fad81351b0>
```



```
In [16]: # Read in image, Grayscale and Blur
img = cv2.imread('wheeler9.jpg')
gray = cv2.cvtColor(img, cv2.COLOR_BGR2GRAY)
plt.imshow(cv2.cvtColor(gray, cv2.COLOR_BGR2RGB))

Out[16]: <matplotlib.image.AxesImage at 0x1fad81351b0>
```

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