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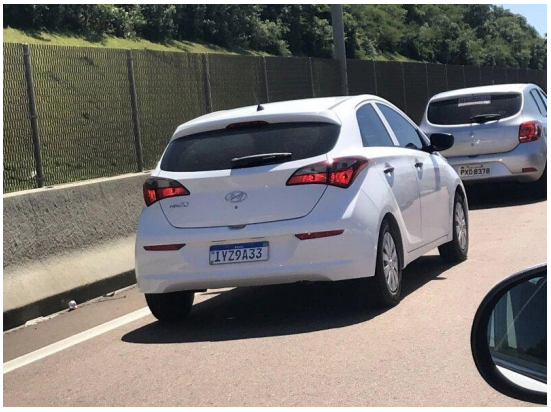
Para esta etapa:

Utilizando os conceitos apresentados sobre morfologia matemática, e demais filtros, escolha 3 imagens de carros com sua placas, aparecendo nas imagens e:



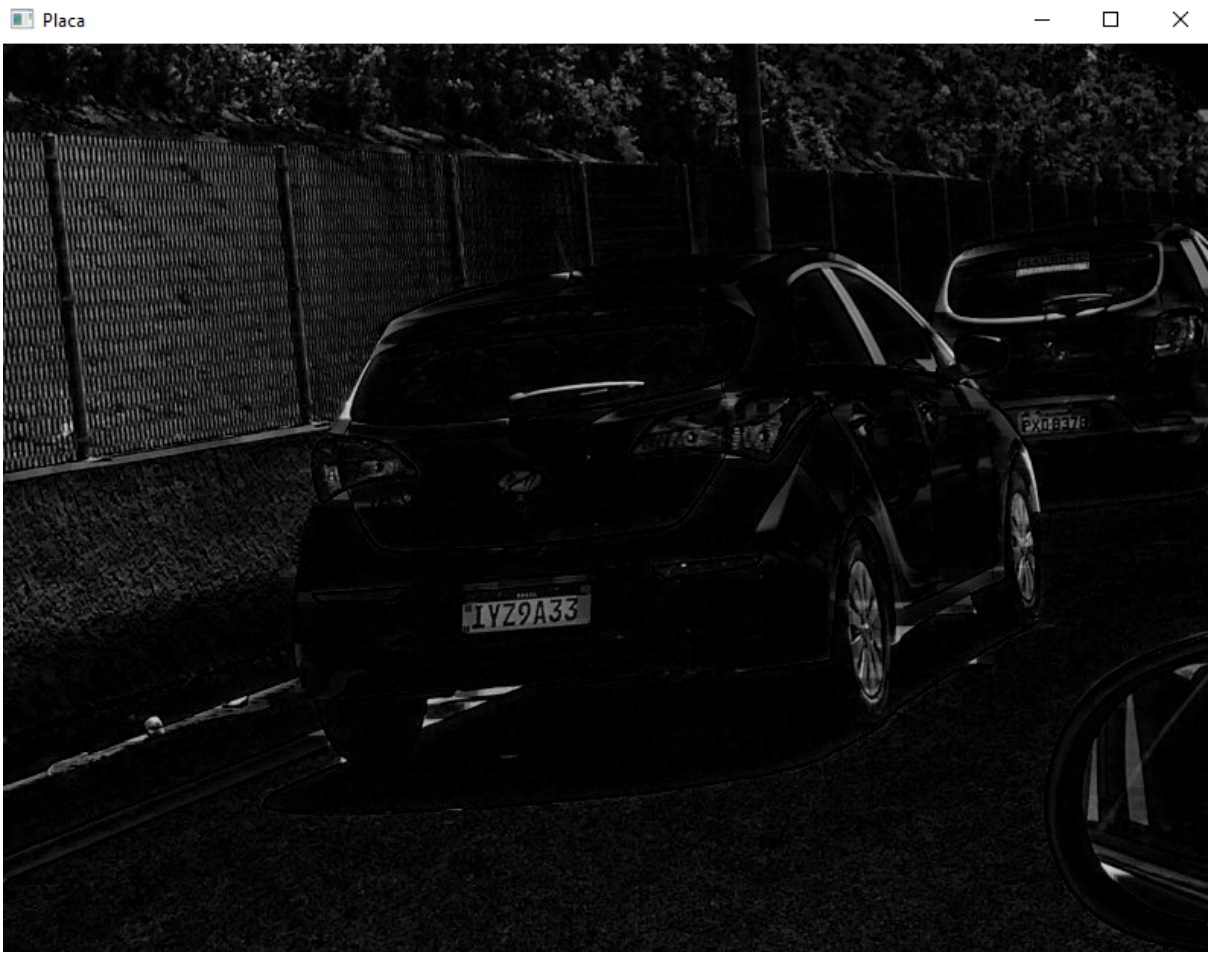
1 - Identifique a placa.


```
import argparse
import cv2

ap = argparse.ArgumentParser()
ap.add_argument("--1.jpg")
args = vars(ap.parse_args())

image = cv2.imread("1.jpg")
gray = cv2.cvtColor(image, cv2.COLOR_BGR2GRAY)
rectKernel = cv2.getStructuringElement(cv2.MORPH_RECT, (13, 5))

placa = cv2.morphologyEx(gray, cv2.MORPH_TOPHAT, rectKernel)
cv2.imshow("Placa", placa)
cv2.waitKey(0)
```

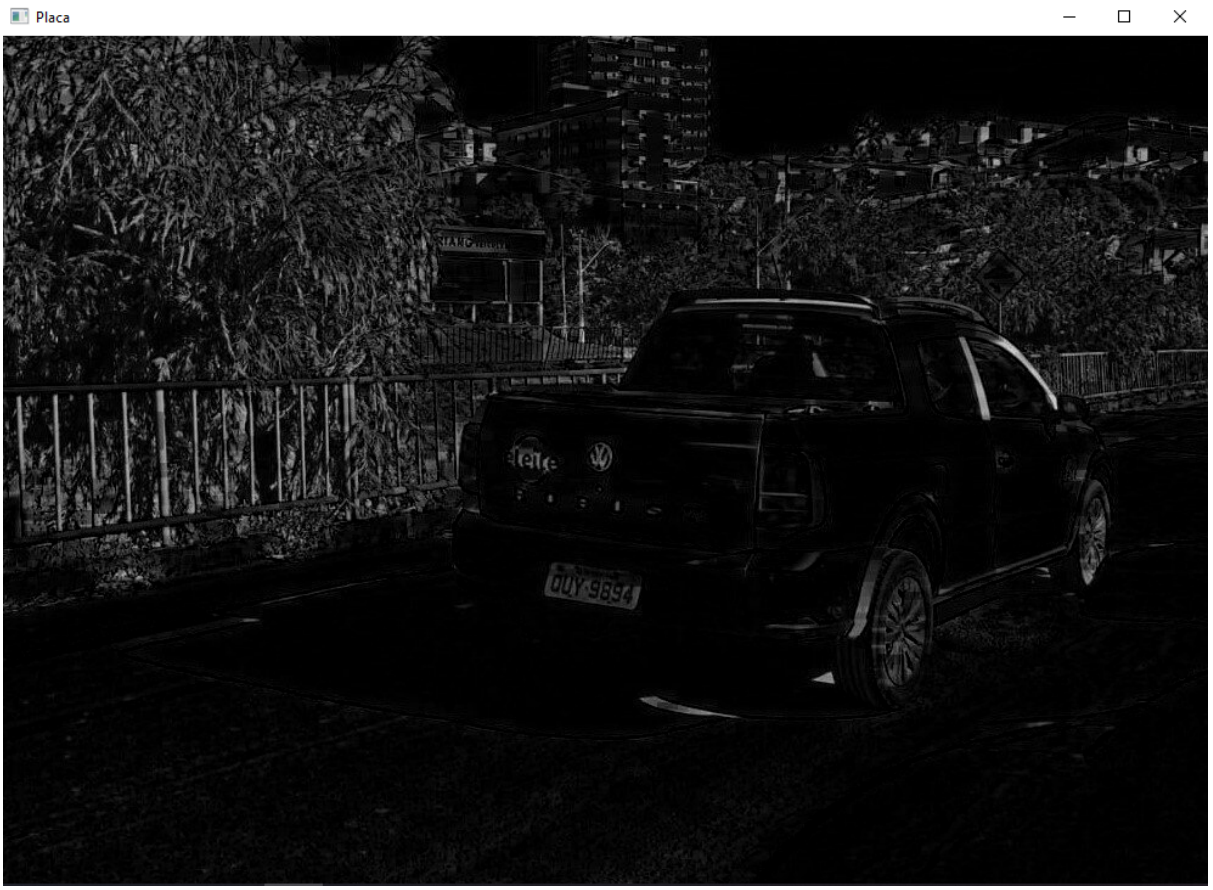



```python
import argparse
import cv2

ap = argparse.ArgumentParser()
ap.add_argument("--2.jpg")
args = vars(ap.parse_args())

image = cv2.imread("2.jpg")
gray = cv2.cvtColor(image, cv2.COLOR_BGR2GRAY)
rectKernel = cv2.getStructuringElement(cv2.MORPH_RECT, (13, 5))

placa = cv2.morphologyEx(gray, cv2.MORPH_TOPHAT, rectKernel)
cv2.imshow("Placa", placa)
cv2.waitKey(0)
```




```python
import argparse
import cv2

ap = argparse.ArgumentParser()
ap.add_argument("--3.jpg")
args = vars(ap.parse_args())

image = cv2.imread("3.jpg")
gray = cv2.cvtColor(image, cv2.COLOR_BGR2GRAY)
rectKernel = cv2.getStructuringElement(cv2.MORPH_RECT, (13, 5))

placa = cv2.morphologyEx(gray, cv2.MORPH_TOPHAT, rectKernel)
cv2.imshow("Placa", placa)
cv2.waitKey(0)
```

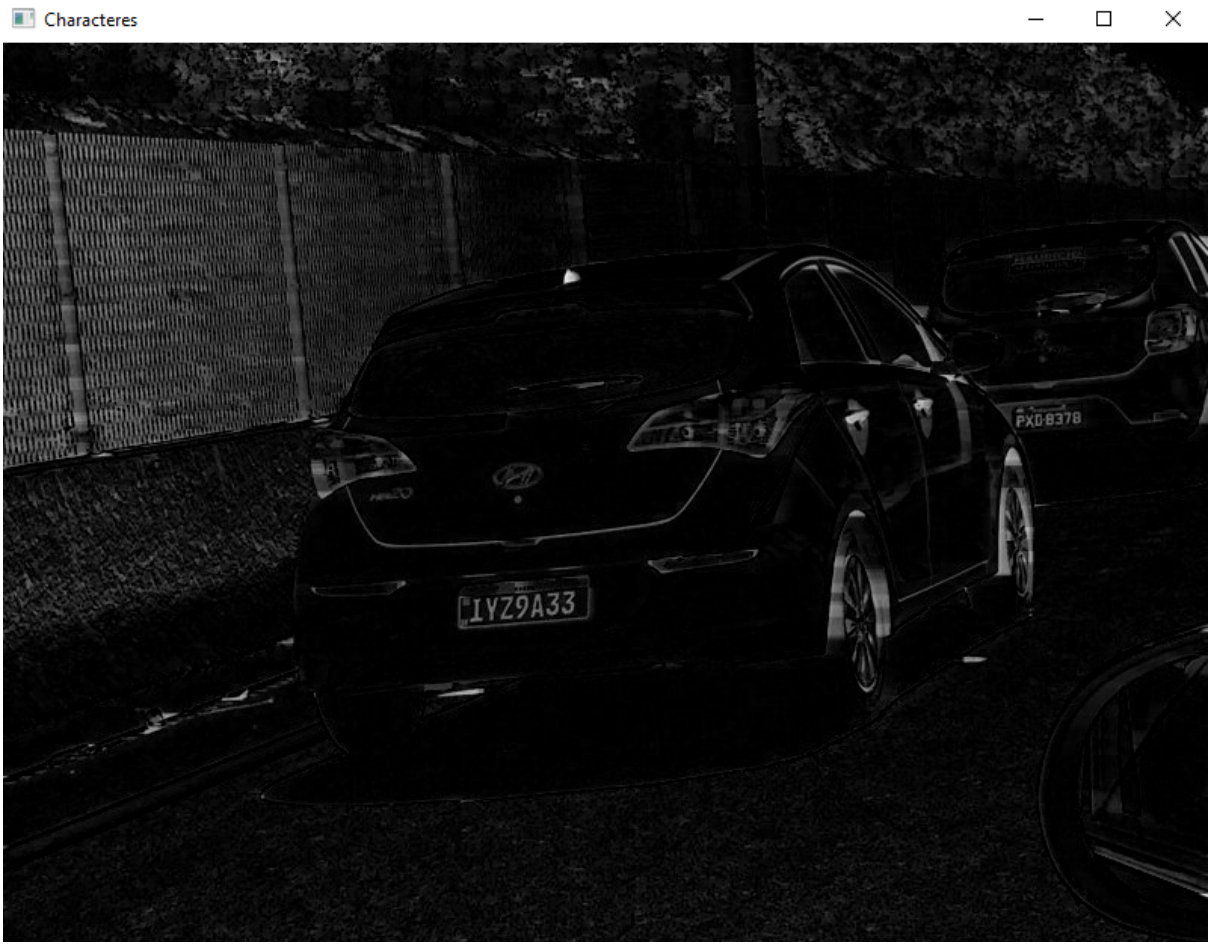
2 - identifique os número e letras.


```
import argparse
import cv2

ap = argparse.ArgumentParser()
ap.add_argument("--1.jpg")
args = vars(ap.parse_args())

image = cv2.imread("1.jpg")
gray = cv2.cvtColor(image, cv2.COLOR_BGR2GRAY)
rectKernel = cv2.getStructuringElement(cv2.MORPH_RECT, (13, 5))

characteres = cv2.morphologyEx(gray, cv2.MORPH_BLACKHAT, rectKernel)
cv2.imshow("Characteres", characteres)
cv2.waitKey(0)
```




```
import argparse
import cv2

ap = argparse.ArgumentParser()
ap.add_argument("--2.jpg")
args = vars(ap.parse_args())

image = cv2.imread("2.jpg")
gray = cv2.cvtColor(image, cv2.COLOR_BGR2GRAY)
rectKernel = cv2.getStructuringElement(cv2.MORPH_RECT, (13, 5))

characteres = cv2.morphologyEx(gray, cv2.MORPH_BLACKHAT, rectKernel)
cv2.imshow("Characteres", characteres)
cv2.waitKey(0)
```


```
import argparse
import cv2

ap = argparse.ArgumentParser()
ap.add_argument("--3.jpg")
args = vars(ap.parse_args())

image = cv2.imread("3.jpg")
gray = cv2.cvtColor(image, cv2.COLOR_BGR2GRAY)
rectKernel = cv2.getStructuringElement(cv2.MORPH_RECT, (13, 5))

characteres = cv2.morphologyEx(gray, cv2.MORPH_BLACKHAT, rectKernel)
cv2.imshow("Characteres", characteres)
cv2.waitKey(0)
```