Task-4 : Image to Pencil Sketch with Python(Beginner Level Task)

We need to read the image in RBG format and then convert it to a grayscale image. This will turn an image into a classic black and white photo. Then the next thing to do is invert the grayscale image also called negative image, this will be our inverted grayscale image. Inversion can be used to enhance details. Then we can finally create the pencil sketch by mixing the grayscale image with the inverted blurry image. This can be done by dividing the grayscale image by the inverted blurry image. Since images are just arrays, we can easily do this programmatically using the divide function from the cv2 library in Python.

Images used : a car and a butterfly (we will work with both)

A look into the images

```
import cv2 #importing library for reading images (OpenCV (Open Source Computer Vision Libr
from google.colab.patches import cv2_imshow # cv2.imshow() is disabled in Colab, because i
image1 = cv2.imread("/content/car im 1.jpg")
cv2_imshow(image1)
```

```
image2 = cv2.imread("/content/butterfly im 2.jpg")
cv2_imshow(image2)
```

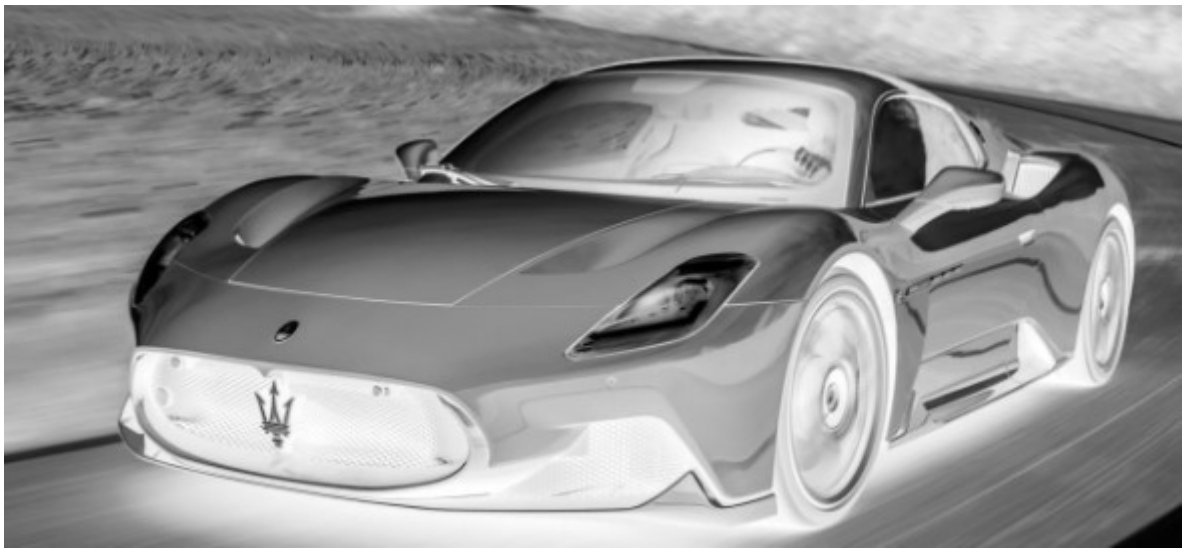
Converting into a Gray scale image

```
gray_image1 = cv2.cvtColor(image1, cv2.COLOR_BGR2GRAY) #cv2.cvtColor() method is used to c
cv2_imshow(gray_image1)
```

```
gray_image2 = cv2.cvtColor(image2, cv2.COLOR_BGR2GRAY) #cv2.cvtColor() method is used to c
cv2_imshow(gray_image2)
```

Invert the Gray scale called as negative scale

```
inverted_image1 = 255 - gray_image1
cv2_imshow(inverted_image1)
```



```
inverted_image2 = 255 - gray_image2
cv2_imshow(inverted_image2)
```

Blurring the image

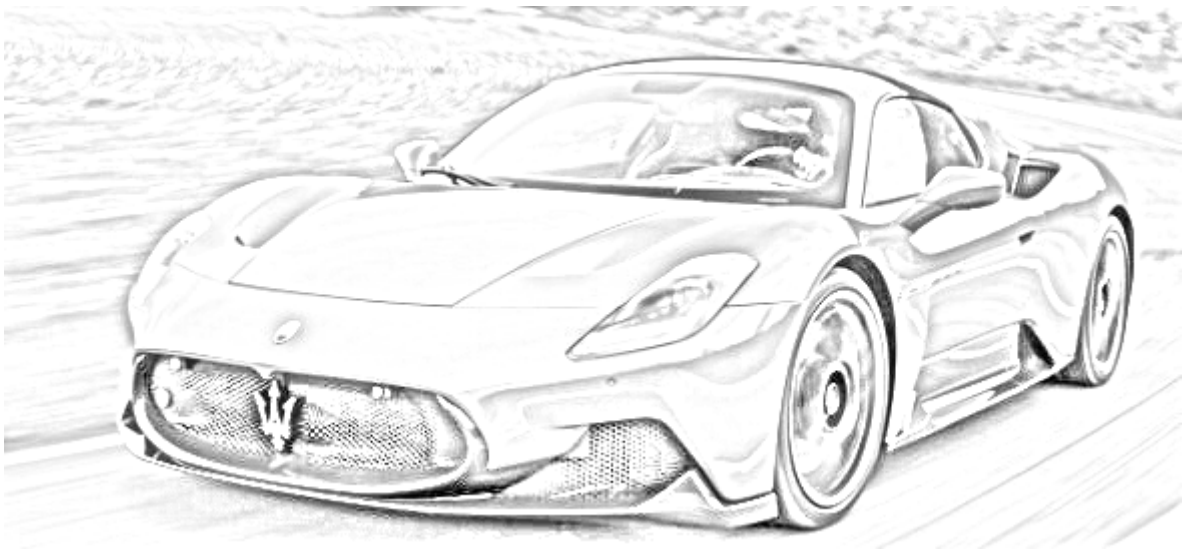
```
blurred1 = cv2.GaussianBlur(inverted_image1, (21, 21), 0) #(21,21)-> size of kernel
cv2_imshow(blurred1)
```

```
blurred2 = cv2.GaussianBlur(inverted_image2, (21, 21), 0) #(21,21)-> size of kernel
cv2_imshow(blurred2)
```

Inverting the blurred image and dividing the grayscale image

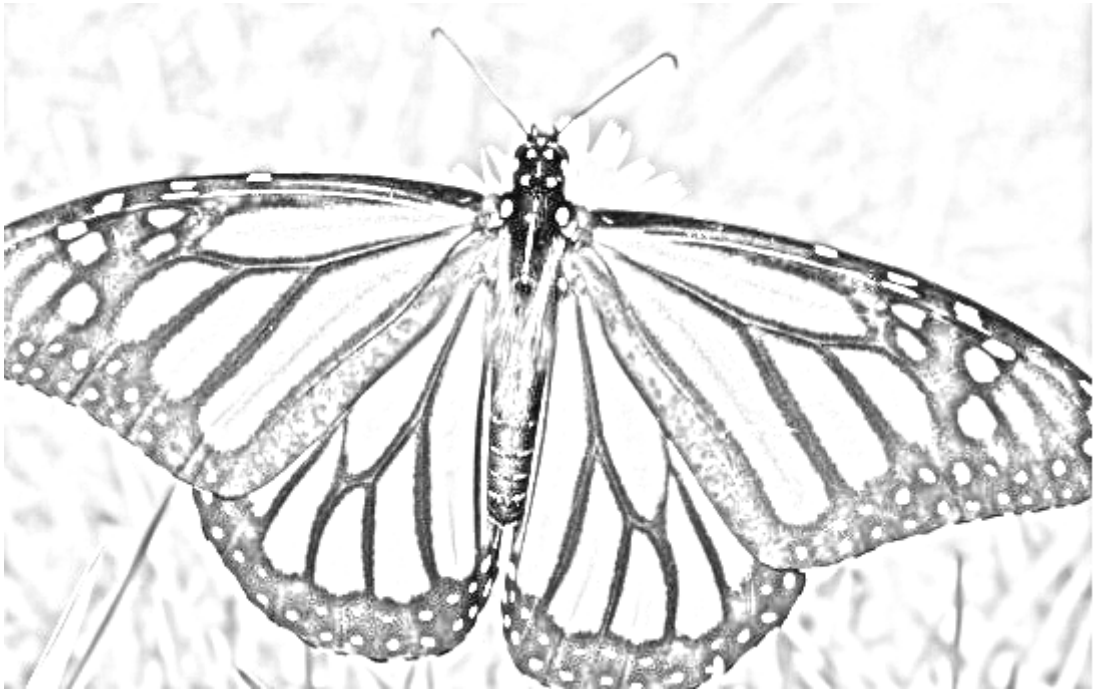
```
inverted_blurred1 = 255 - blurred1
cv2_imshow(inverted_blurred1)
```

```
pencil_sketch1 = cv2.divide(gray_image1, inverted_blurred1, scale=256.0)
cv2_imshow(pencil_sketch1)
```



```
inverted_blurred2 = 255 - blurred2
cv2_imshow(inverted_blurred2)
```

```
pencil_sketch2 = cv2.divide(gray_image2, inverted_blurred2, scale=256.0)
cv2_imshow(pencil_sketch2)
```



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