LetsGrowMore - Data Science Internship

Beginner Level Task

Task - 4 Image to Pencil Sketch with Python

In [1]:
```
#import libraries
import numpy as np
import matplotlib.pyplot as plt
```

In [3]:
```
!pip install opencv-python
```

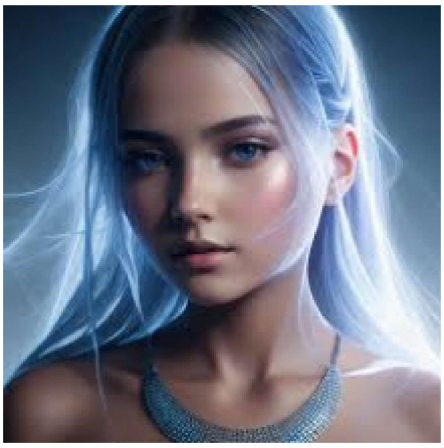
```
Collecting opencv-python
  Using cached opencv_python-4.8.0.74-cp37-abi3-win_amd64.whl (38.1 MB)
Requirement already satisfied: numpy>=1.17.0 in c:\users\lenovo\anaconda3\lib
\site-packages (from opencv-python) (1.21.5)
Installing collected packages: opencv-python
Successfully installed opencv-python-4.8.0.74
```

In [4]:
```
import cv2
```

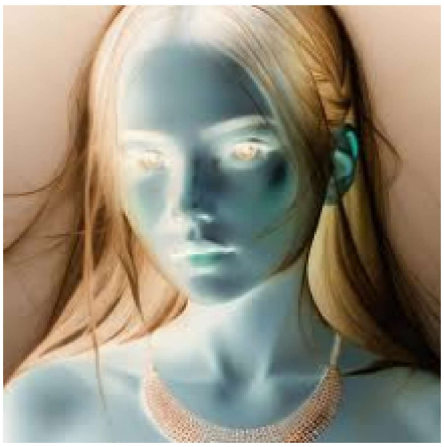
In [5]:
```
#read the image
img=cv2.imread(r"C:\Users\Lenovo\Downloads\images.jpg")
```

In [10]:
```
img=cv2.cvtColor(img,cv2.COLOR_BGR2RGB)
plt.axis("off")
plt.imshow(img)
plt.show()
```

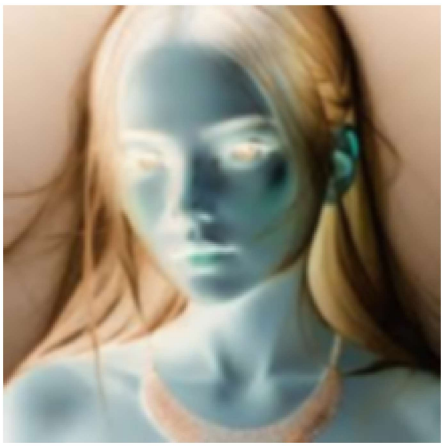
In [11]:
```
#conver image to grayscale image
gray_img=cv2.cvtColor(img,cv2.COLOR_BGR2RGB)
plt.axis("off")
plt.imshow(gray_img)
plt.show()
```



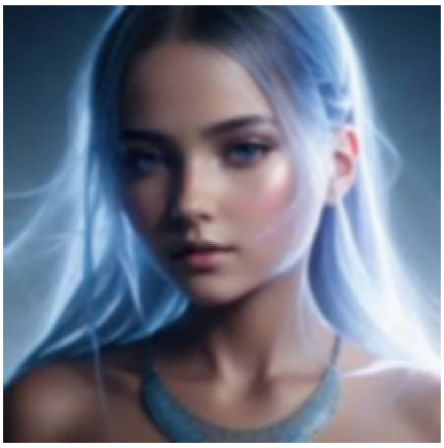
In [12]:
```
#invert the image
inv_gray_img=cv2.bitwise_not(gray_img)
plt.axis("off")
plt.imshow(inv_gray_img)
plt.show()
```



In [14]:
```
#blur the image
blur_img=cv2.GaussianBlur(inv_gray_img,(5,5),0)
plt.axis("off")
plt.imshow(blur_img)
plt.show()
```



In [16]:
```
#invert the image
inv_blur_img=cv2.bitwise_not(blur_img)
plt.axis("off")
plt.imshow(inv_blur_img)
plt.show()
```

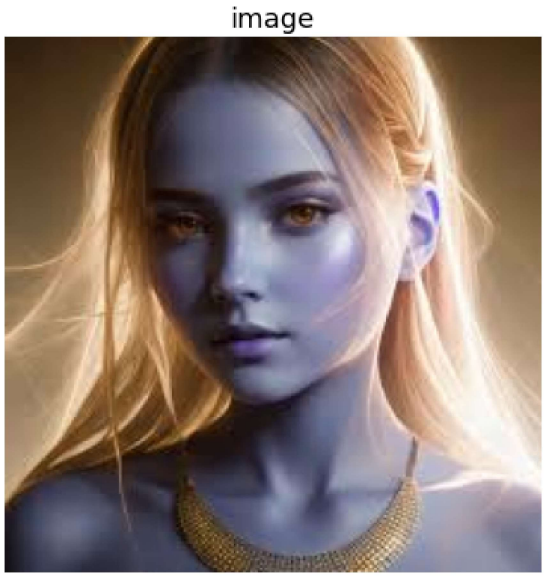


In [18]:
```
#creat pencil sketch image
pencil_img=cv2.divide(gray_img,inv_blur_img,scale=256.0)
plt.axis("off")
plt.imshow(pencil_img)
plt.show()
```

In [20]:
```
#save the sketch
cv2.imwrite("./output_image.png",pencil_img)
```

Out[20]: True

In [26]:
```
#display original image vs sketch
plt.figure(figsize=(14,8))
plt.subplot(1,2,1)
plt.title("image",size=18)
plt.imshow(img)
plt.axis("off")
plt.subplot(1,2,2)
plt.title("sketch image",size=18)
rgb_sketch=cv2.cvtColor(pencil_img,cv2.COLOR_BGR2RGB)
plt.imshow(pencil_img)
plt.axis("off")
plt.show()
```



In [ ]: