```
import cv2
import numpy as np
from google.colab import files
from google.colab.patches import cv2_imshow

uploaded = files.upload()
image_path = next(iter(uploaded))
image = cv2.imdecode(np.frombuffer(uploaded[image_path], np.uint8), cv2.IMREAD_COLOR)

gray = cv2.cvtColor(image, cv2.COLOR_BGR2GRAY)

sobel_x = cv2.Sobel(gray, cv2.CV_64F, dx=1, dy=0, ksize=3)
sobel_x = cv2.convertScaleAbs(sobel_x)

print("Original Image:")
cv2_imshow(image)

print("Sobel Edge Detection (X-axis):")
cv2_imshow(sobel_x)
```

Choose Files i17.PNG

- **i17.PNG**(image/png) - 392400 bytes, last modified: 5/7/2025 - 100% done

```
Saving i17.PNG to i17.PNG
Original Image:
```

```
Sobel Edge Detection (X-axis):
```