```
import cv2
import numpy as np
import matplotlib.pyplot as plt

# Load image in grayscale
image = cv2.imread('/content/do_nawab-100x100.png', cv2.IMREAD_GRAYSCALE)

# Define Prewitt kernels
prewitt_x = np.array([[-1, 0, 1],
                      [-1, 0, 1],
                      [-1, 0, 1]])

prewitt_y = np.array([[-1, -1, -1],
                      [ 0,  0,  0],
                      [ 1,  1,  1]])

# Apply Prewitt operator using convolution
prewitt_x_result = cv2.filter2D(image, -1, prewitt_x)
prewitt_y_result = cv2.filter2D(image, -1, prewitt_y)

# Compute the magnitude of the gradient
magnitude = np.sqrt(prewitt_x_result**2 + prewitt_y_result**2)

# Convert to 8-bit image
magnitude = np.uint8(np.absolute(magnitude))

# Display the results
plt.figure(figsize=(10, 7))
plt.subplot(1, 3, 1), plt.imshow(image, cmap='gray'), plt.title('Original Image')
plt.subplot(1, 3, 2), plt.imshow(magnitude, cmap='gray'), plt.title('Prewitt Edge Magnitude')
plt.subplot(1, 3, 3), plt.imshow(prewitt_x_result, cmap='gray'), plt.title('Prewitt X Direction')
plt.show()
```