```
import cv2
import numpy as np
import matplotlib.pyplot as plt
from google.colab import files
from scipy.ndimage import maximum_filter

# Upload the image file
uploaded = files.upload()

# Load the uploaded image
# Use 'uploaded' instead of 'upload'
image = cv2.imread(next(iter(uploaded)))

# Convert the image from BGR (OpenCV default) to RGB (for displaying with Matplotlib)
image_rgb = cv2.cvtColor(image, cv2.COLOR_BGR2RGB)

# Function to apply Max Filter
def max_filter_func(image, kernel_size=3):
    """
    Apply max filter to the given image.

    Parameters:
    - image: Input image (numpy array).
    - kernel_size: The size of the kernel (odd integer, e.g., 3, 5, 7).

    Returns:
    - filtered_image: Image after applying the max filter.
    """
    # Apply the max filter using scipy.ndimage.maximum_filter function
    filtered_image = maximum_filter(image, size=kernel_size)

    return filtered_image

# Apply the max filter
filtered_image = max_filter_func(image, kernel_size=3)

# Convert the filtered image to RGB for display
filtered_image_rgb = cv2.cvtColor(filtered_image, cv2.COLOR_BGR2RGB)

# Display the original and filtered images
plt.figure(figsize=(10, 5))

plt.subplot(1, 2, 1)
plt.imshow(image_rgb)
plt.title("Original Image")
plt.axis('off')

plt.subplot(1, 2, 2)
plt.imshow(filtered_image_rgb)
plt.title("Filtered Image (Max Filter)")
plt.axis('off')

plt.show()
```

Choose Files diksha.jpg

- **diksha.jpg**(image/jpeg) - 189229 bytes, last modified: 3/11/2025 - 100% done

```
Saving diksha.jpg to diksha.jpg
```

Original Image

Filtered Image (Max Filter)