Question2

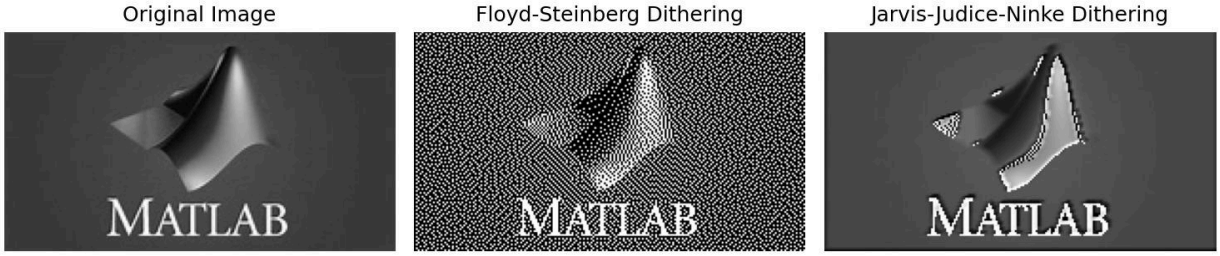
1. Floyd-Steinberg Dithering Algorithm:

- **Algorithm**: This is an error diffusion method where the quantization error of each pixel is distributed to its neighboring pixels (below and to the right) in specific proportions.
- **Output Characteristics**:
    - Produces fine dithering patterns with high visual quality.
    - Preserves details in the image while maintaining a smooth transition of tones.
    - Suitable for images where maintaining a balance between quality and simplicity is important.

2. Jarvis-Judice-Ninke Dithering Algorithm:

- **Algorithm**: This is a more complex error diffusion method that spreads the quantization error to more neighbors than Floyd-Steinberg, following a larger matrix.
- **Output Characteristics**:
    - Results in coarser dithering patterns compared to Floyd-Steinberg.
    - May introduce more texture into the image due to the larger area of error distribution.
    - Suitable for images where texture or a more "painterly" effect is desired.

Output Comparison:



- **Floyd-Steinberg** tends to produce smoother and finer dithering patterns, making it a good choice for preserving the details and smooth gradients of an image.

- **Jarvis-Judice-Ninke** introduces more pronounced dithering effects, which may be useful for artistic or textured appearances but can result in a rougher overall image.