CS370: Assignment 2 - Documentation

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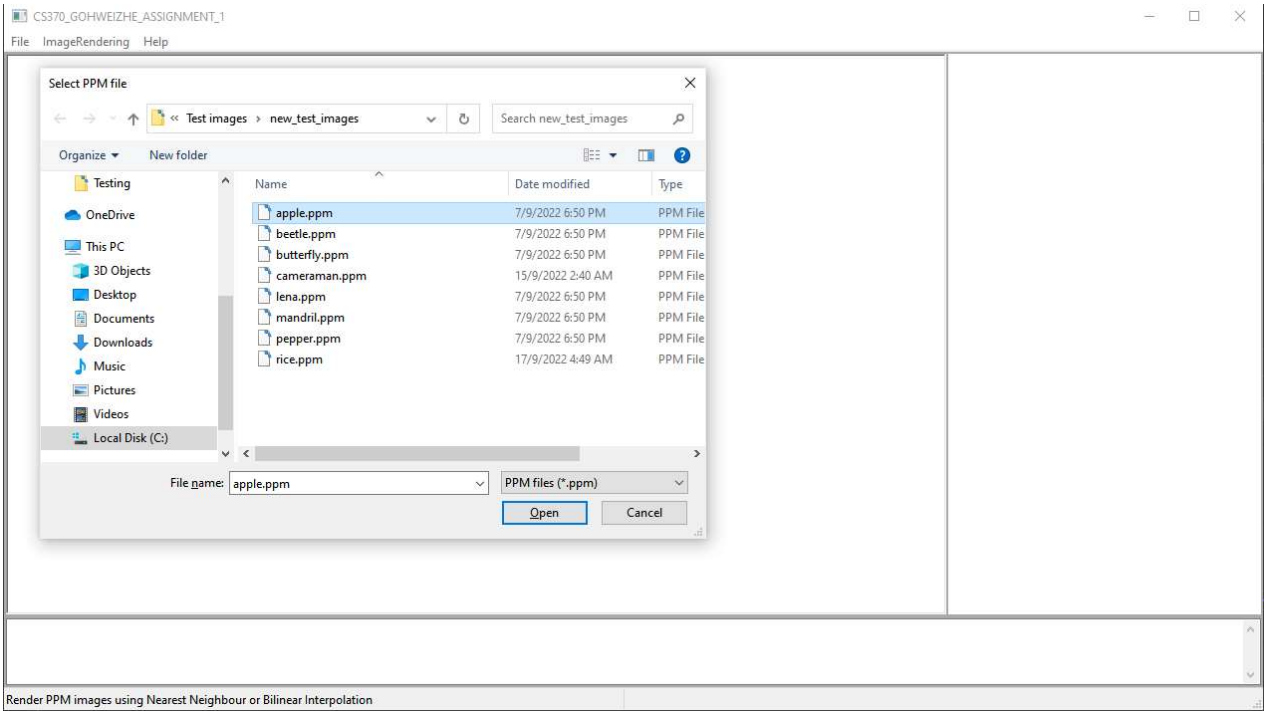
Declaration:

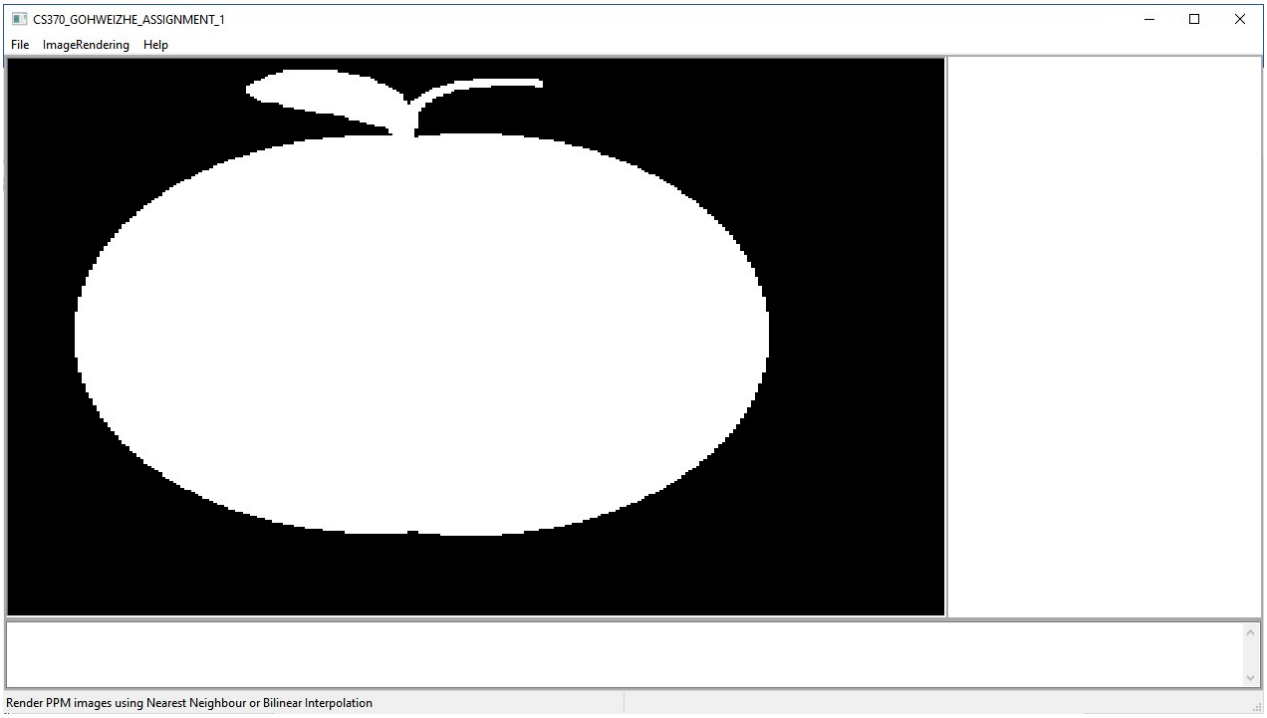
I hereby declare that I adhere to the Academic Integrity Policy stated in the syllabus document. In addition, I also declare that the output images shown in this document are solely taken from the project that I have implemented for this assignment and the same output image will be generated when run in any Digipen PCs using the submitted project.

Load Image:



File Dialog pops up for users to select the image that they want to load.

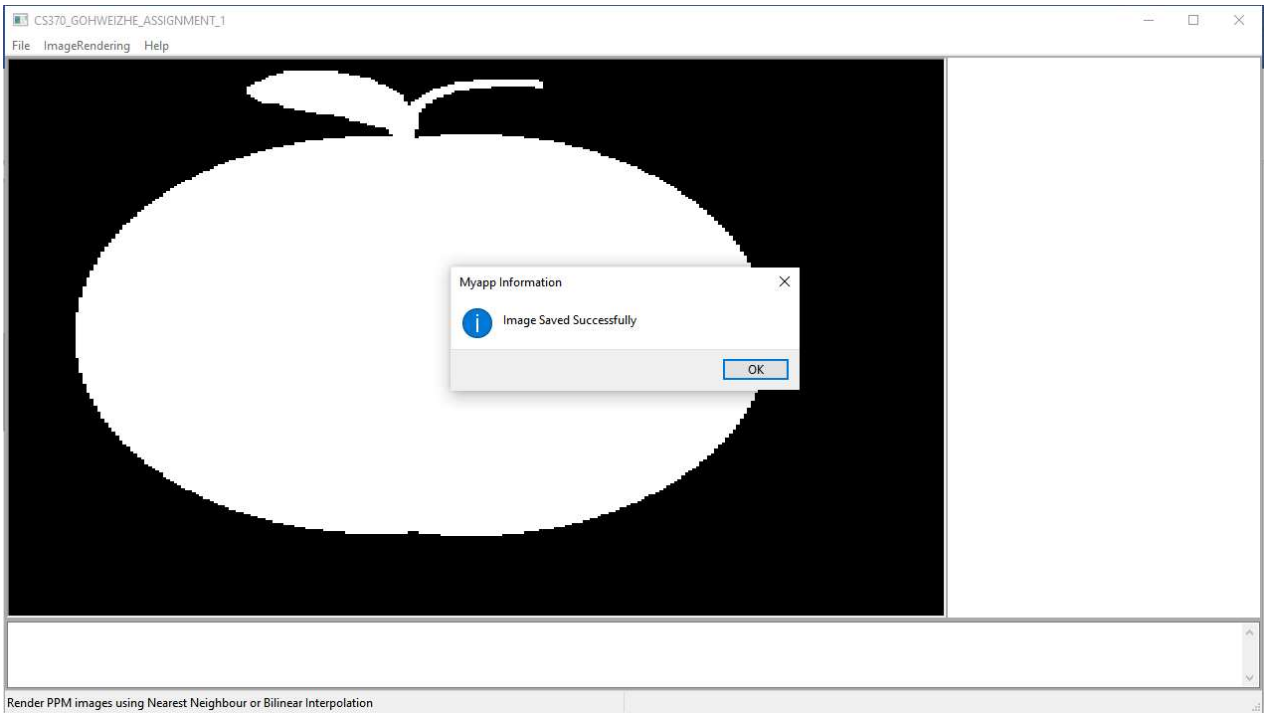
Display Image on Screen:



Save Image (Before):

apple.ppm	7/9/2022 6:50 PM	PPM File	565 KB
beetle.ppm	7/9/2022 6:50 PM	PPM File	319 KB
butterfly.ppm	7/9/2022 6:50 PM	PPM File	1,432 KB
cameraman.ppm	15/9/2022 2:40 AM	PPM File	769 KB
lena.ppm	7/9/2022 6:50 PM	PPM File	769 KB
mandril.ppm	7/9/2022 6:50 PM	PPM File	2,923 KB
pepper.ppm	7/9/2022 6:50 PM	PPM File	769 KB
rice.ppm	17/9/2022 4:49 AM	PPM File	193 KB

Save Image (After):

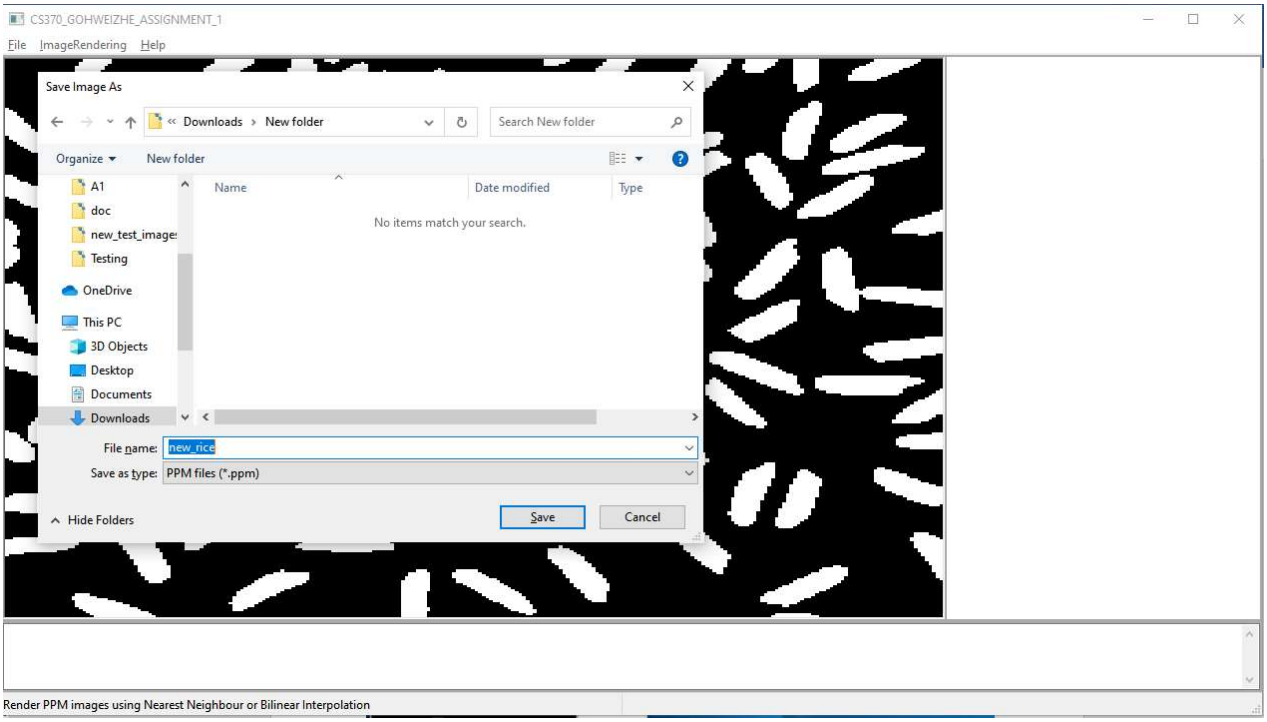


Message pops up “Image Saved Successfully.” to indicate image as been saved successfully.

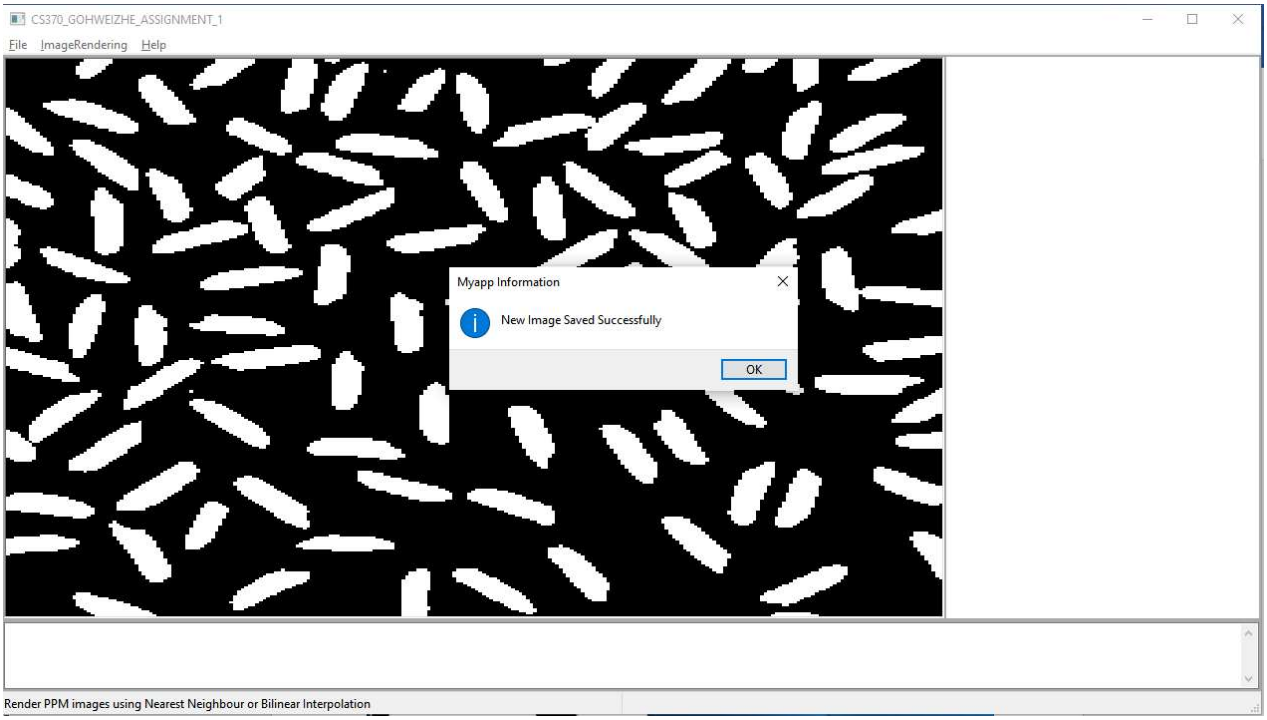
apple.ppm	17/9/2022 5:04 AM	PPM File	193 KB
beetle.ppm	7/9/2022 6:50 PM	PPM File	319 KB
butterfly.ppm	7/9/2022 6:50 PM	PPM File	1,432 KB
cameraman.ppm	15/9/2022 2:40 AM	PPM File	769 KB
lena.ppm	7/9/2022 6:50 PM	PPM File	769 KB
mandril.ppm	7/9/2022 6:50 PM	PPM File	2,923 KB
pepper.ppm	7/9/2022 6:50 PM	PPM File	769 KB
rice.ppm	17/9/2022 4:49 AM	PPM File	193 KB

The time of apple.ppm is being updated when saved.

Save As Image:



File dialog pops up for users to input their file name.



Message pops up “New image saved successfully.” to indicate a new image as been saved successfully.

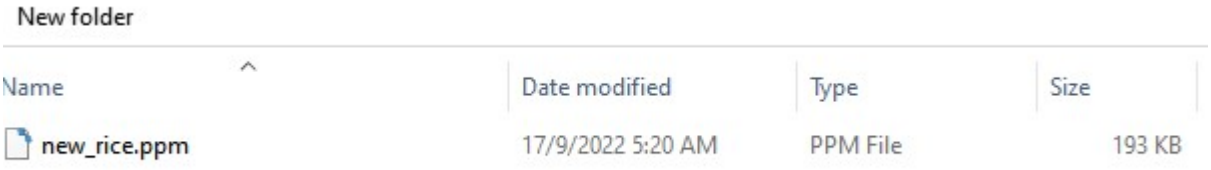
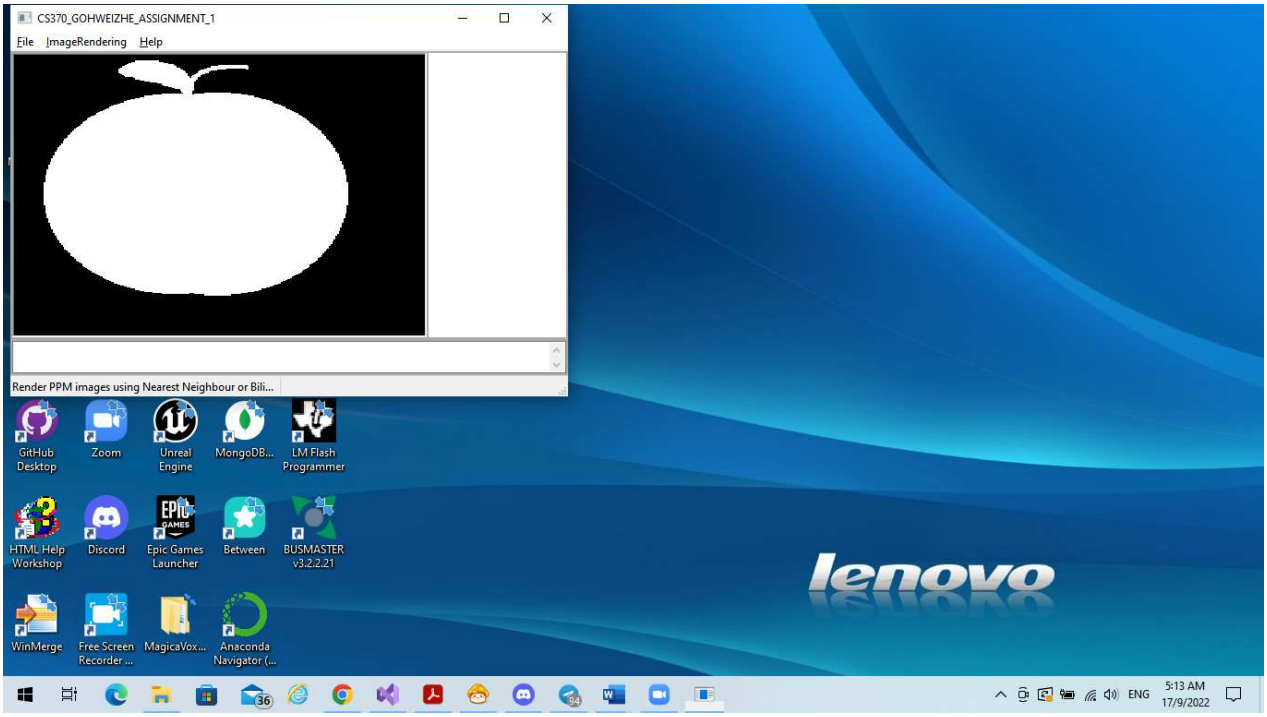
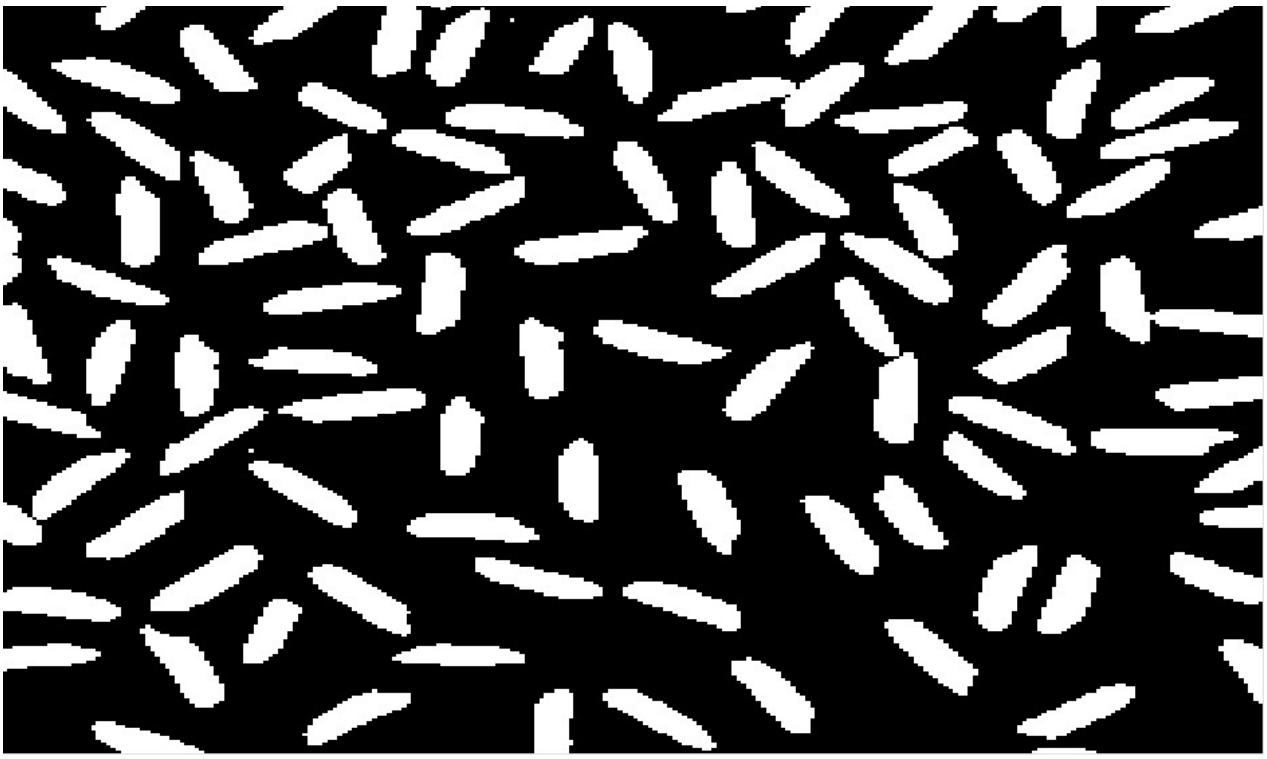


Image scaled to match client window at all times:



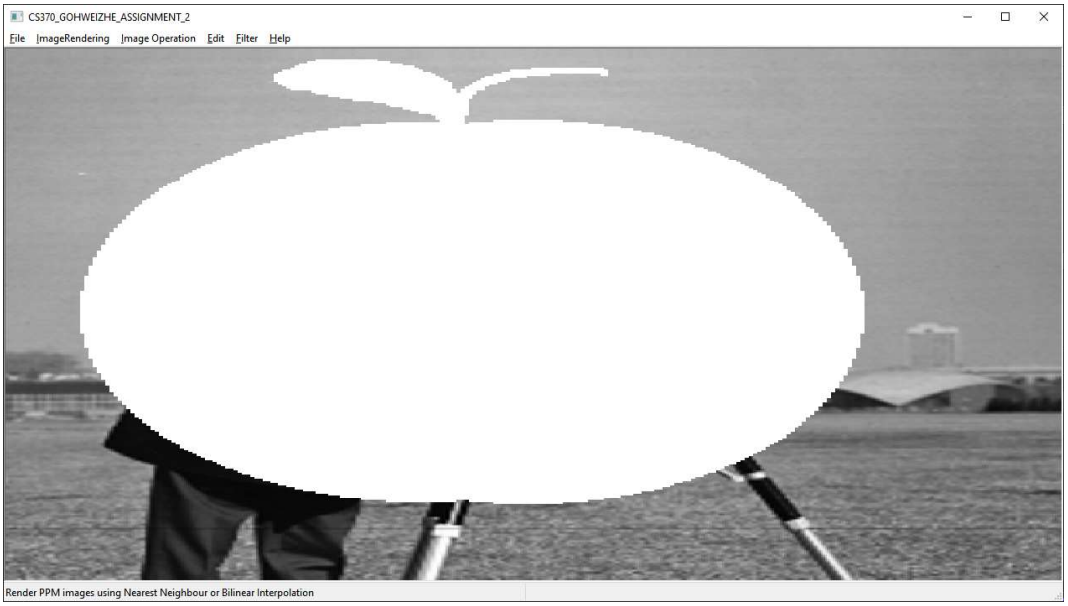
Nearest Neighbor Interpolation:



Bilinear Interpolation:

Bicubic Interpolation:

Addition



Cameraman (Image 1) + Apple (Image 2)

Steps to generate image addition:

File Menu > Open Image 1 (Cameraman) > Open Image 2 (Apple) > Image Operation Menu > Addition.

Subtraction

Cameraman (Image 1) - Apple (Image 2)

Steps to generate image subtraction:

File Menu > Open Image 1 (Cameraman) > Open Image 2 (Apple) > Image Operation Menu > Subtraction.

Product

Cameraman (Image 1) * Apple (Image 2)

Steps to generate image multiply:

File Menu > Open Image 1 (Cameraman) > Open Image 2 (Apple) > Image Operation Menu > Multiply.

Division

Cameraman (Image 1) / Apple (Image 2)

Steps to generate image division:

File Menu > Open Image 1 (Cameraman) > Open Image 2 (Apple) > Image Operation Menu > Division.

Negative

Steps to generate image negative:

File Menu > Open Image (Cameraman) > Edit Menu > Image Negative.

Log Transform

Log transform generated with constant value = 105.00f

Steps to generate image log transform:

File Menu > Open Image (Cameraman) > Edit Menu > Log Transform.

Power (Gamma) Transform

Gamma transform generated with constant value = 2.00f, Gamma = 5.00f

Steps to generate image gamma transform:

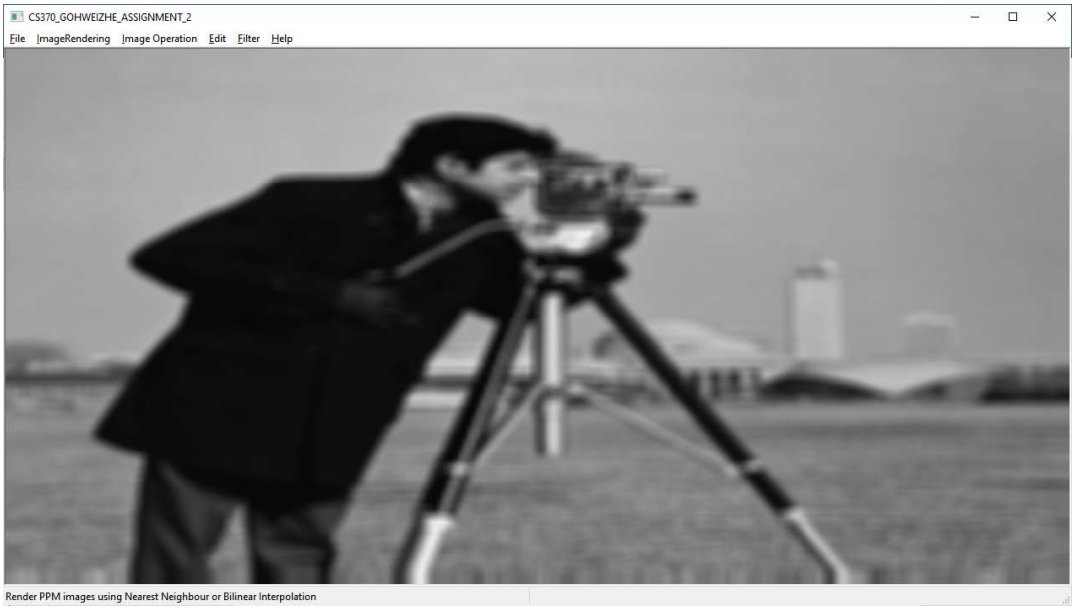
File Menu > Open Image (Cameraman) > Edit Menu > Gamma Transform.

Histogram Equalization

Steps to generate image histogram equalization:

File Menu > Open Image (Cameraman) > Edit Menu > Histogram Equalization

Gaussian Filter



Gaussian Filter generated with Kernel = 7, Sigma = 10.0f

Steps to generate image – Gaussian Filter:

File Menu > Open Image (Cameraman) > Filter > Gaussian Blur Filter

Sobel Operator

Steps to generate image - Sobel Operator:

File Menu > Open Image (Cameraman) > Filter > Sobel Edge Detection