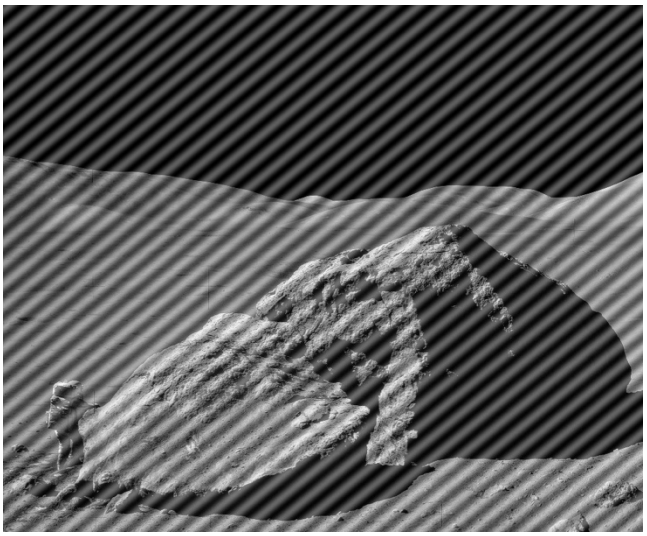
Georgia State University
CSC 4260
Homework 2

Please submit your assignment by 11:59 pm on March 31, including:
1-A program file, adequately commented for clarity.
2-A work report in PDF format, encompassing program codes and showcasing the output images.

Problem 1. (60 points)
Develop a program in either Python or Java to restore the following periodic noise corrupted image. Display the band reject filter in Fourier domain and the restored image.
Input Image: HW2_DegradedImage from Icollege



Problem 2. (40 points)
Develop a program in either Python or Java to replicate the processes outlined in Figure 9.41, maintaining the same order of execution.
Display the resulting images with consistent formatting.
Input Image: HW2_Head from Icollege

a b
c d

FIGURE 9.41
(a) 512×512 image of a head CT scan. (b) Dilation. (c) Erosion. (d) Morphological gradient, computed as the difference between (b) and (c). (Original image courtesy of Dr. David R. Pickens, Vanderbilt University.)