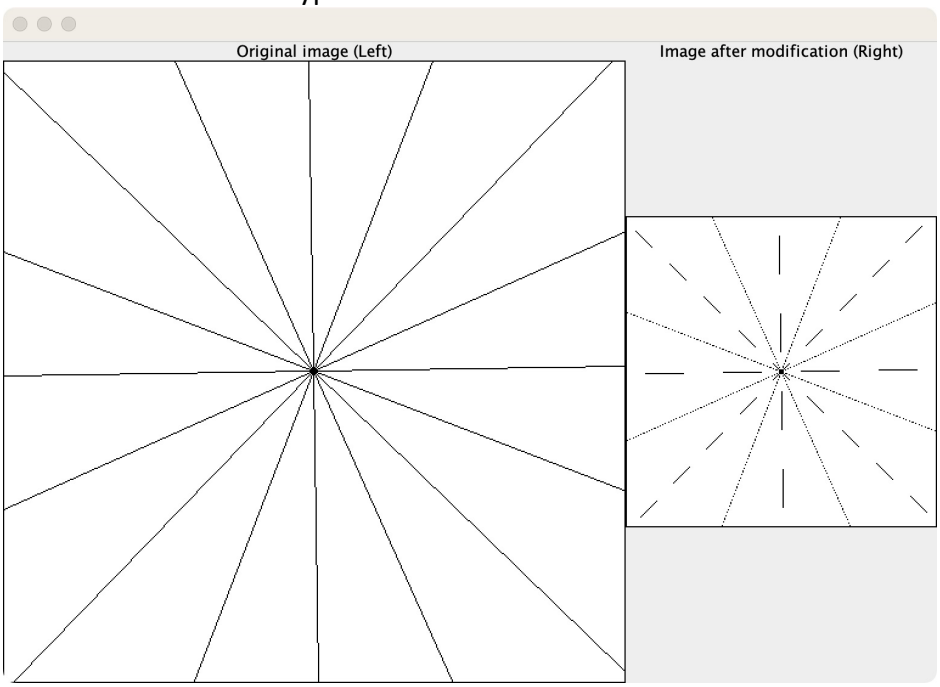
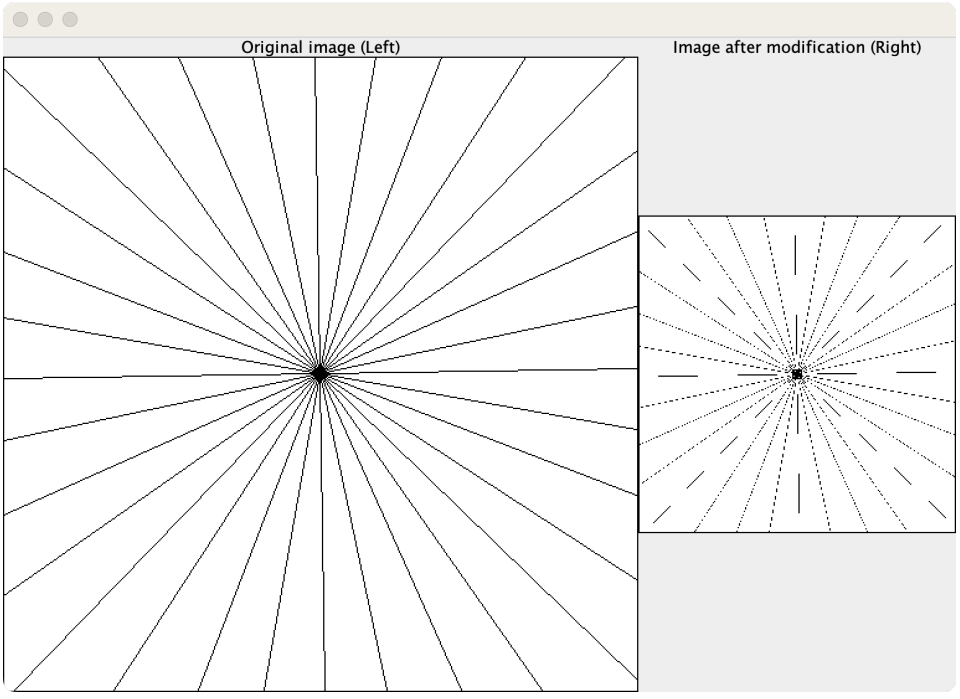
Part1

1. Let's try an experiment where s (scale factor) remains constant and n (number of lines) is allowed to vary. Comment on your results by using various constant values of s for changing n. You may attach results, plot charts etc. to qualify your results.

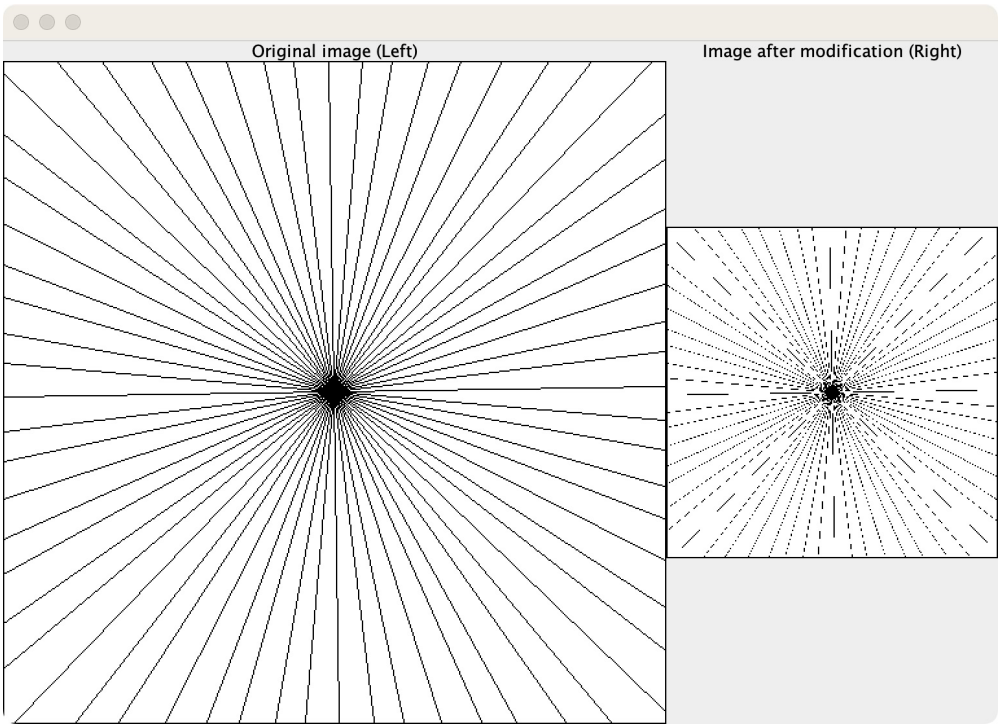
Result of command: Mypart1 16 0.5 0



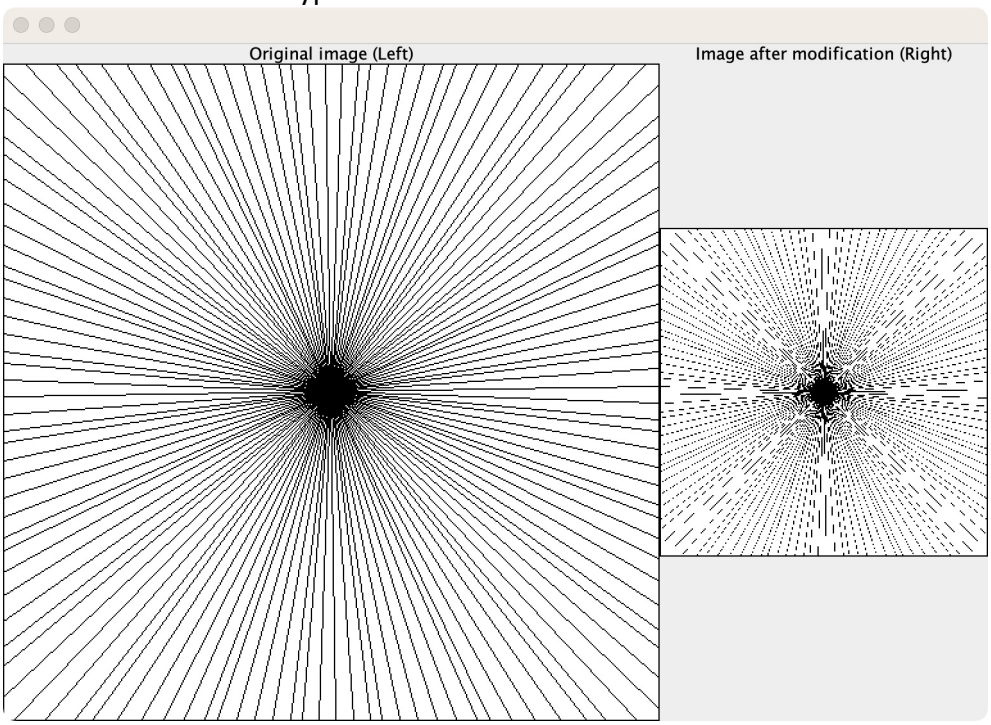
Result of command: Mypart1 32 0.5 0



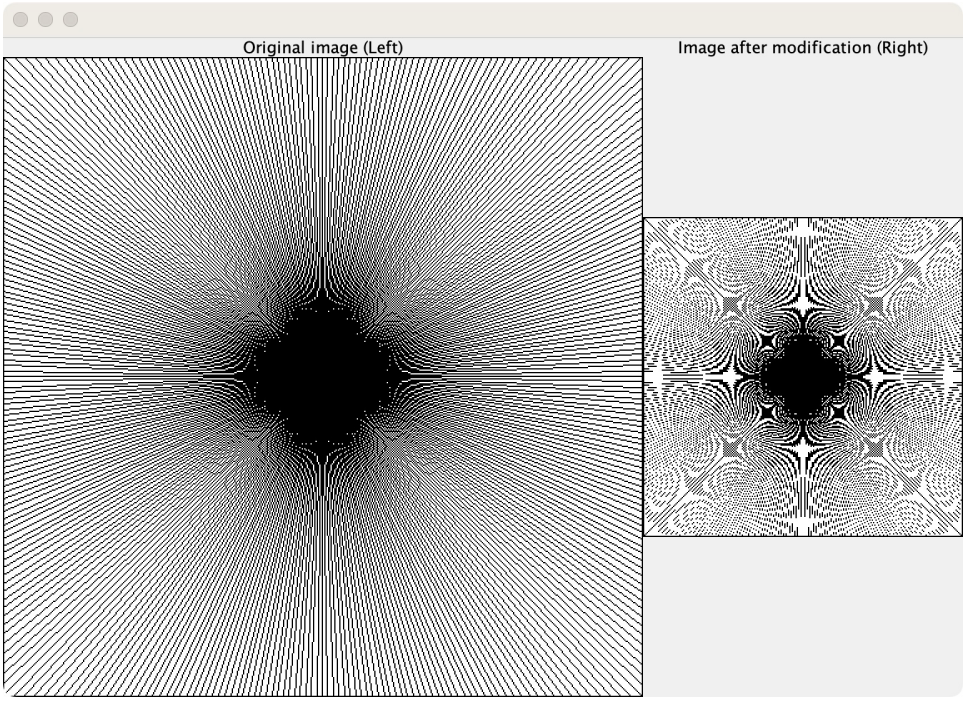
Result of command: Mypart1 64 0.5 0



Result of command: Mypart1 128 0.5 0



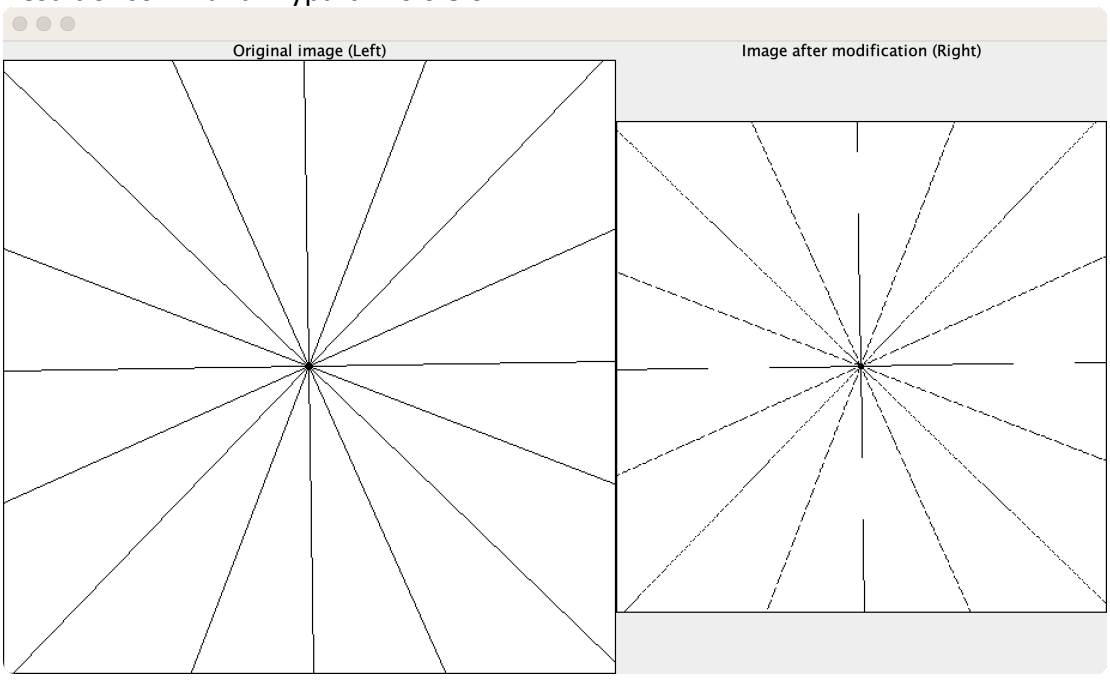
Result of command: Mypart1 360 0.5 0



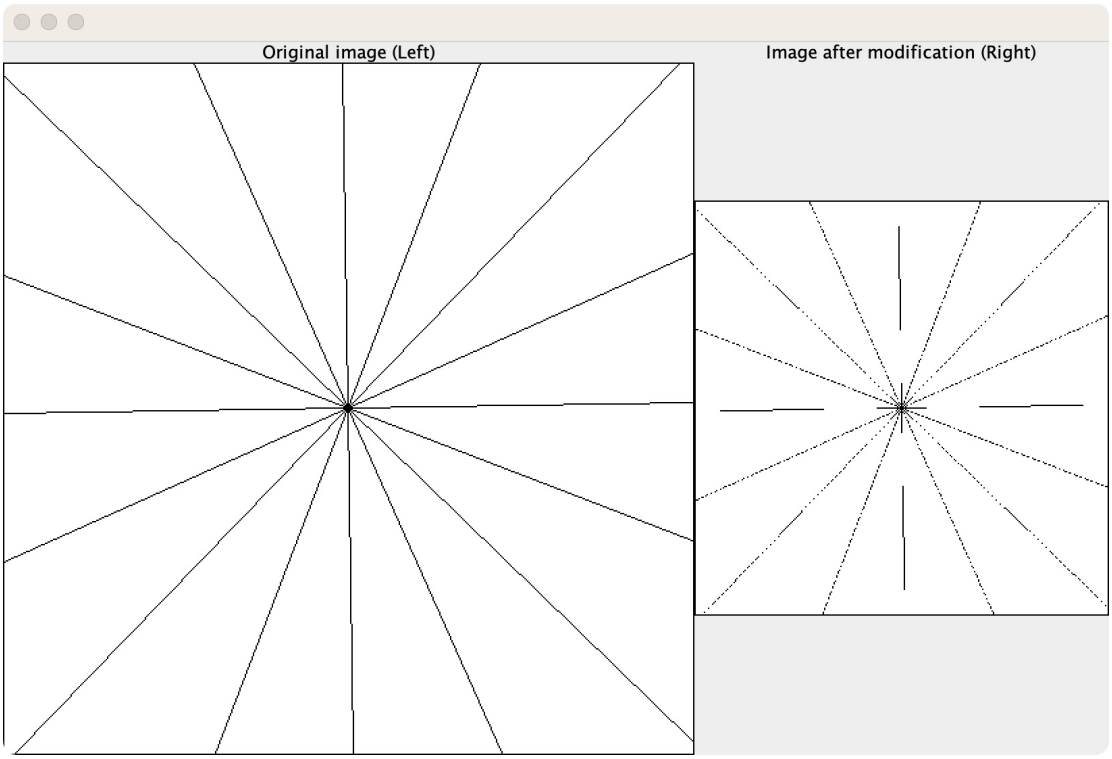
By keeping the scale factor (0.5) constant and changing the number of lines from 16 to 32, 64, 128, 360, the results show that increasing the number of lines will increase the effect of the aliasing when resample the input. This is because of the data loss during the resampling process. Resampling higher frequency data will result in higher data loss and increase the effect of the aliasing.

2. Let's try another experiment, this time keep n (number of lines) constant and varying s (scale factor). Comment on your results by using various constant values of n for changing s. You may attach results, plot charts etc. to qualify your results.

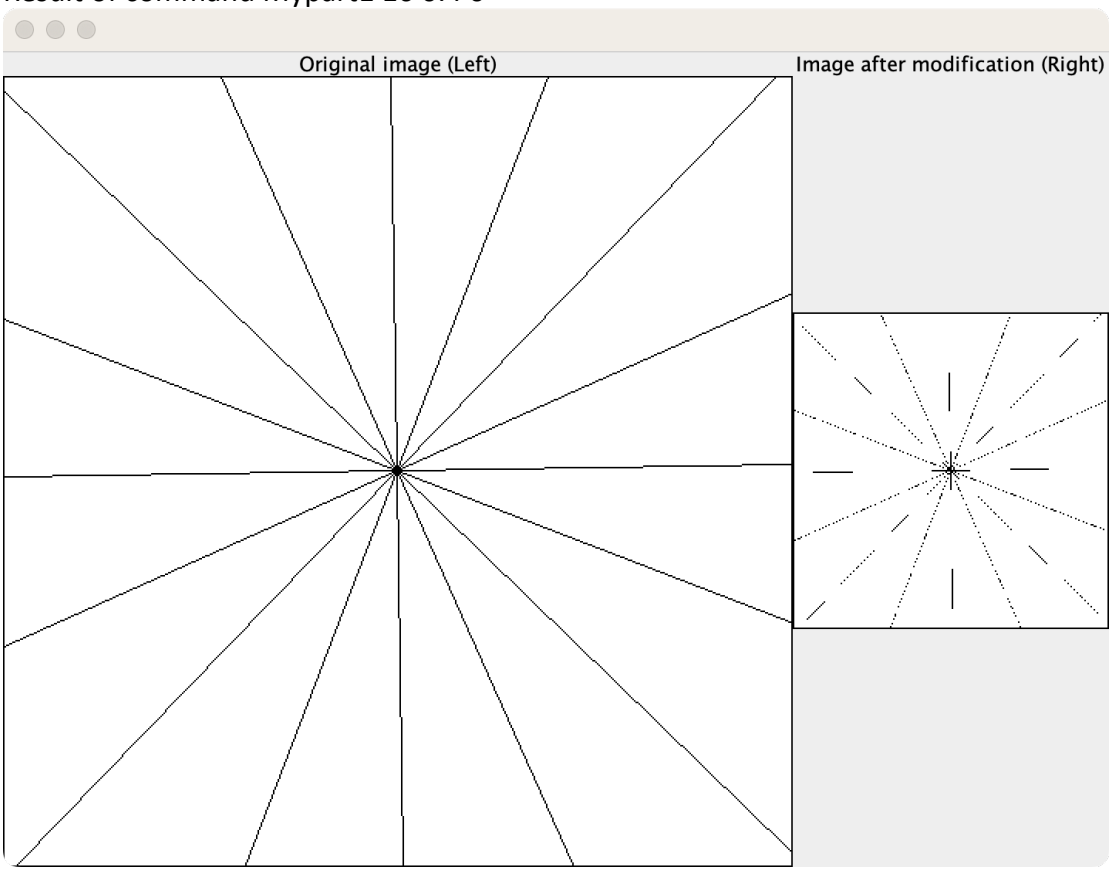
Result of command Mypart1 16 0.8 0



Result of command Mypart1 16 0.6 0



Result of command Mypart1 16 0.4 0



By keeping the number of lines (16) constant and changing the scale factor from 0.8 to 0.6, and 0.4, the results show that smaller scale factor increase the data loss. This is because the smaller scale factor means the lower sampling rate, and the lower sampling rate will result in higher bypass data rate, which will resulted in higher data loss.