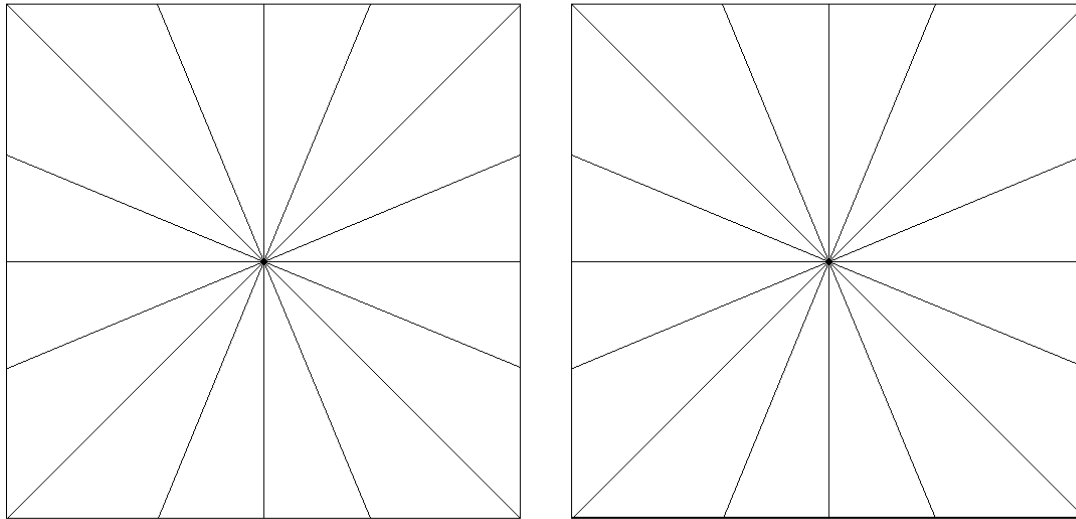


This document contains both Mypart1 and Mypart2 answers

1) Constant scale “S” (Original size) and number of lines “N” are varied:

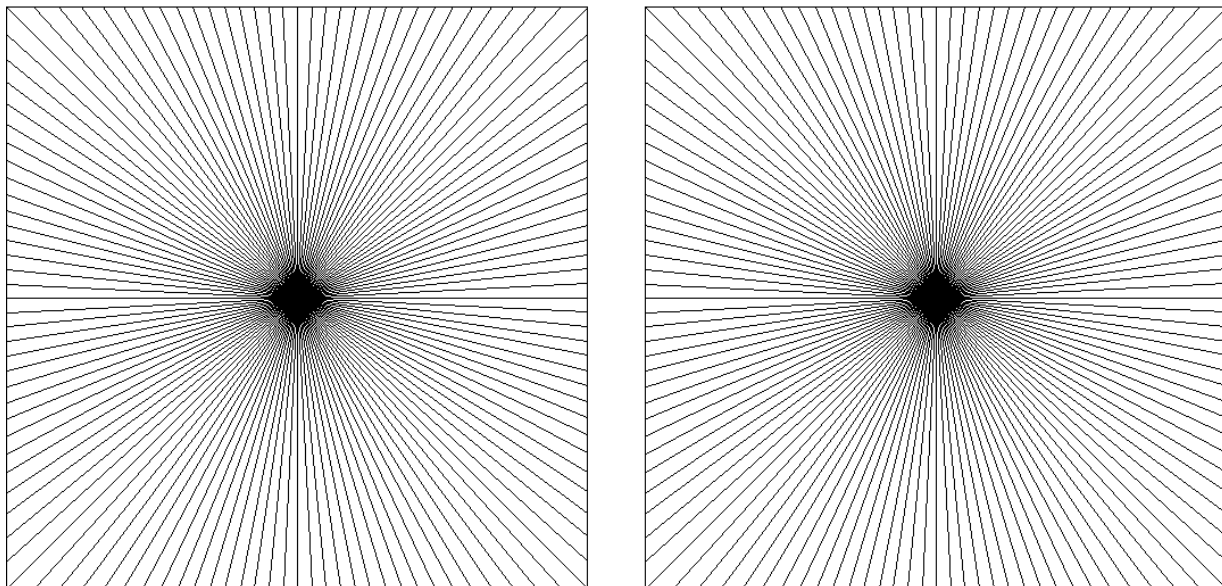
Case1: With $N = 16$, as we have enough samples, the image won't be distorted. Hence we can see a crisp image

Original image (Left) Image after modification (Right)
Update program with your code to modify input image



CASE 2: With $N = 128$, we can see that lines are getting distorted. Because we don't have enough pixels to differentiate between lines, and it looks like all the lines have been merged in the center.

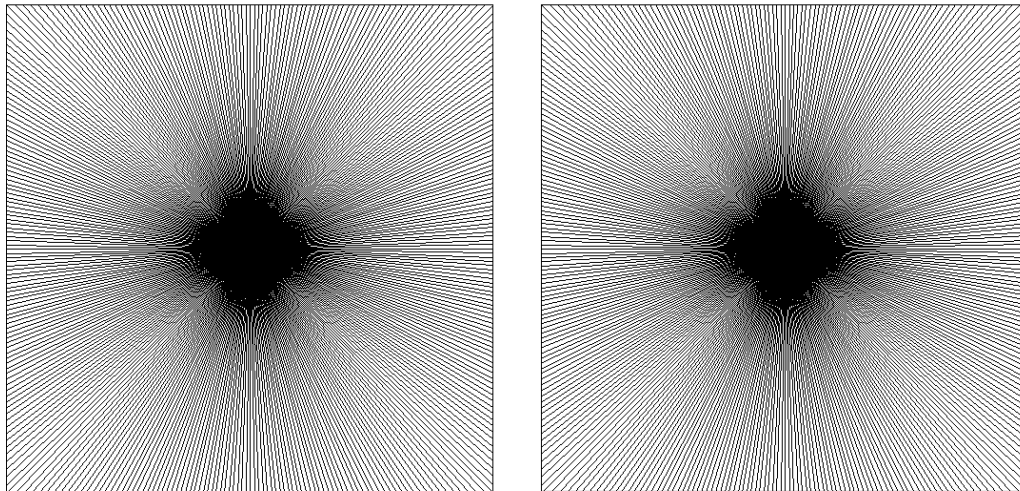
Original image (Left) Image after modification (Right)
Update program with your code to modify input image



This document contains both Mypart1 and Mypart2 answers

CASE 3: With $N = 360$, we can see that almost all the lines are merged, as we can see “Moire” pattern.

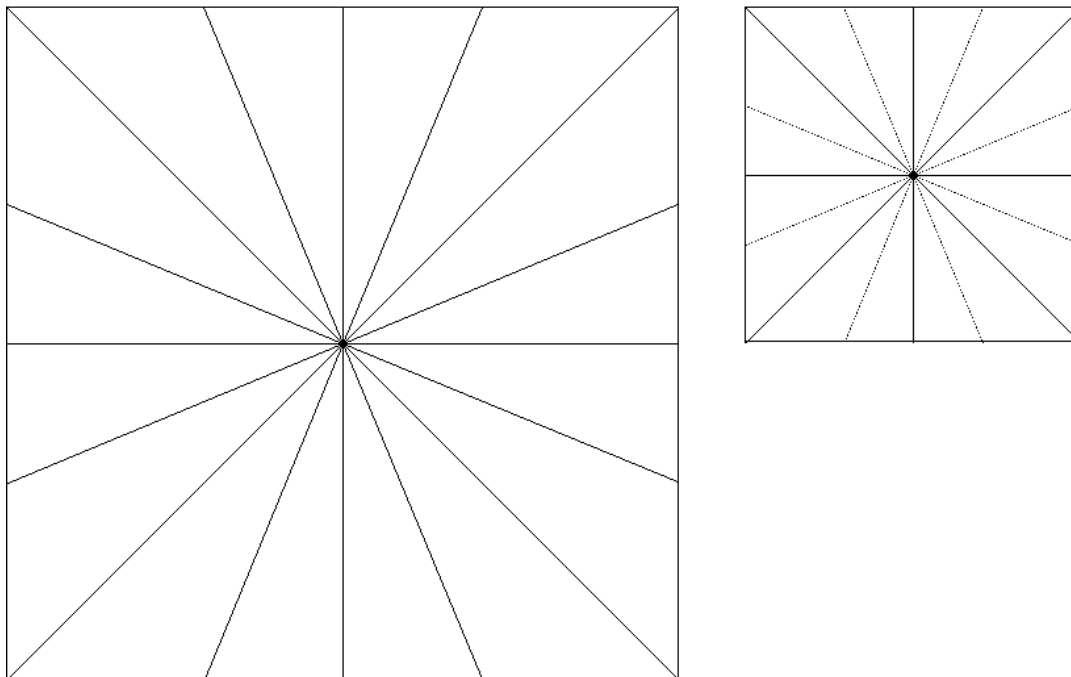
Original image (Left) Image after modification (Right)
Update program with your code to modify input image



2) Constant Line “N” and size “S” is varied:

CASE1: With $\text{scale} = 2$, we can make out clearly the reduced image, and each line is visible clearly.

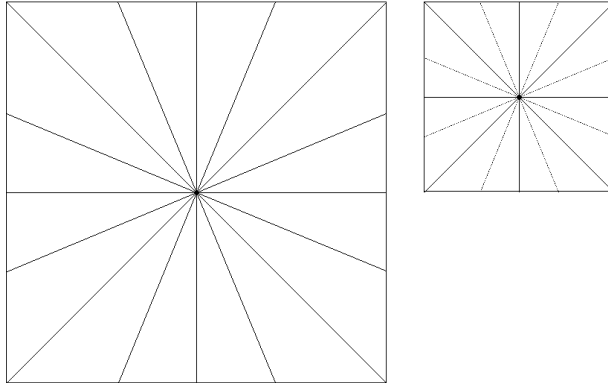
Original image (Left) Image after modification (Right)
Update program with your code to modify input image



This document contains both Mypart1 and Mypart2 answers

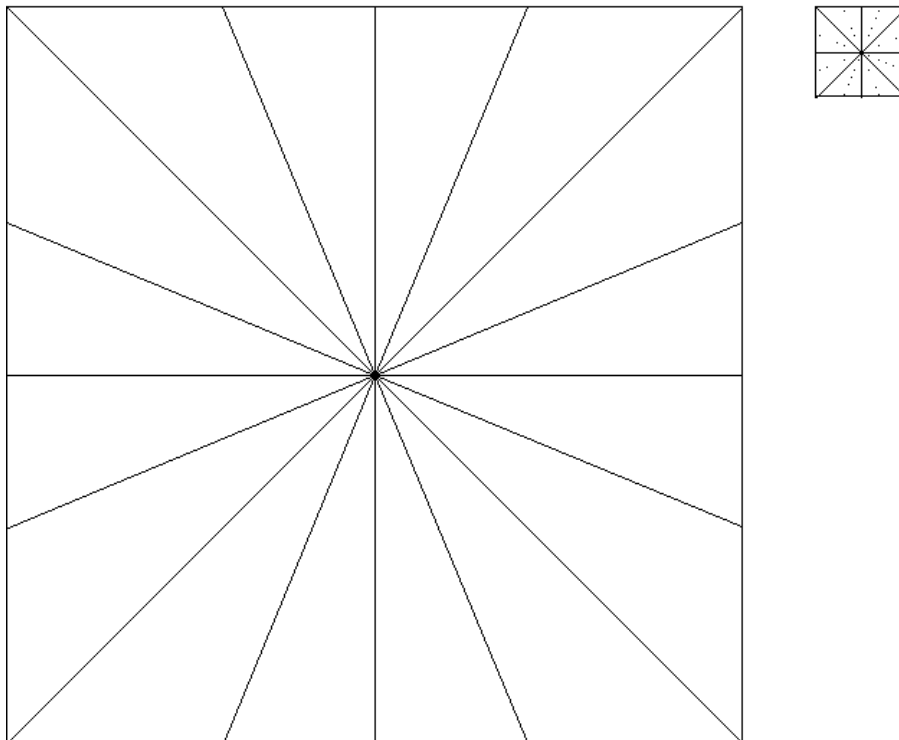
CASE2: With scale = 4, some of the data is being lost. This can be improved using anti-aliasing as shown

Original image (Left) Image after modification (Right)
Update program with your code to modify input image



CASE3: With scale = 8, we can see that some of that most of data is being lost.

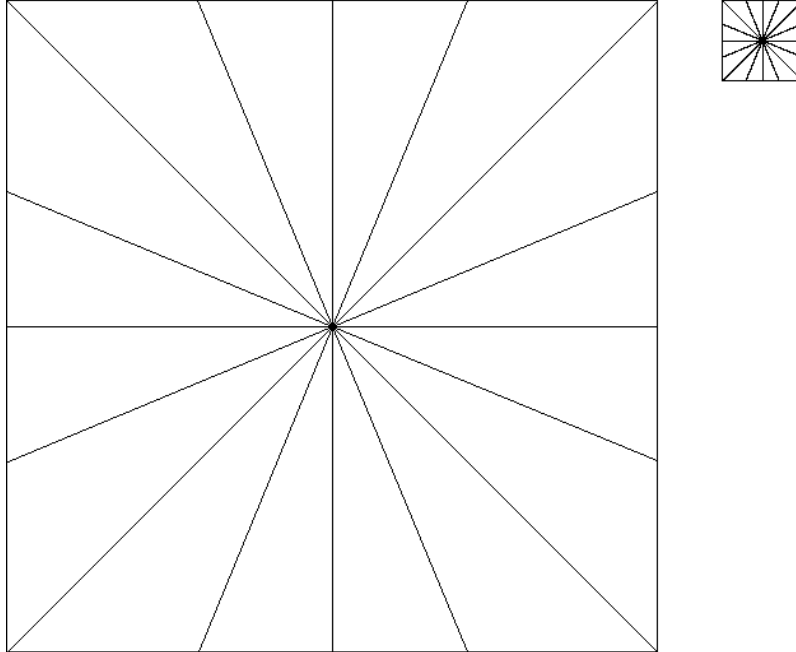
Original image (Left) Image after modification (Right)
Update program with your code to modify input image



This document contains both Mypart1 and Mypart2 answers

CASE4: With scale = 8, and with anti-aliasing turned on:

Original image (Left) Image after modification (Right)
Update program with your code to modify input image



General Observation:

1) When Scale is constant, and number of lines are varied: Lines can be easily differentiable up to a certain density. Once we reach a threshold density point, we basically can't tell which pixel is representation which line, we start to see "Moire" pattern.

2) When number of lines is kept constant, and scale is varied: For few initial scale factor we don't see any loss of information, after a certain scale we start seeing loss of information, which can be reduced using anti-aliasing turned on.
