

HW4 Problem 1

The checkerboard has
2 non-zero singular
values w/ RANK = 2

$$S_{\text{checkerboard}} = \begin{bmatrix} 160 & & 0 \\ & 160 & \\ 0 & & 0 \\ & & \diagdown & \\ & & & 0 \end{bmatrix}$$

Checkerboard has RANK = 2
because there is an evenly
alternating pattern.

the Husky has 429
non-zero singular values

and RANK = 429 because
the image is not patterned
or repeated and has not
been compressed.