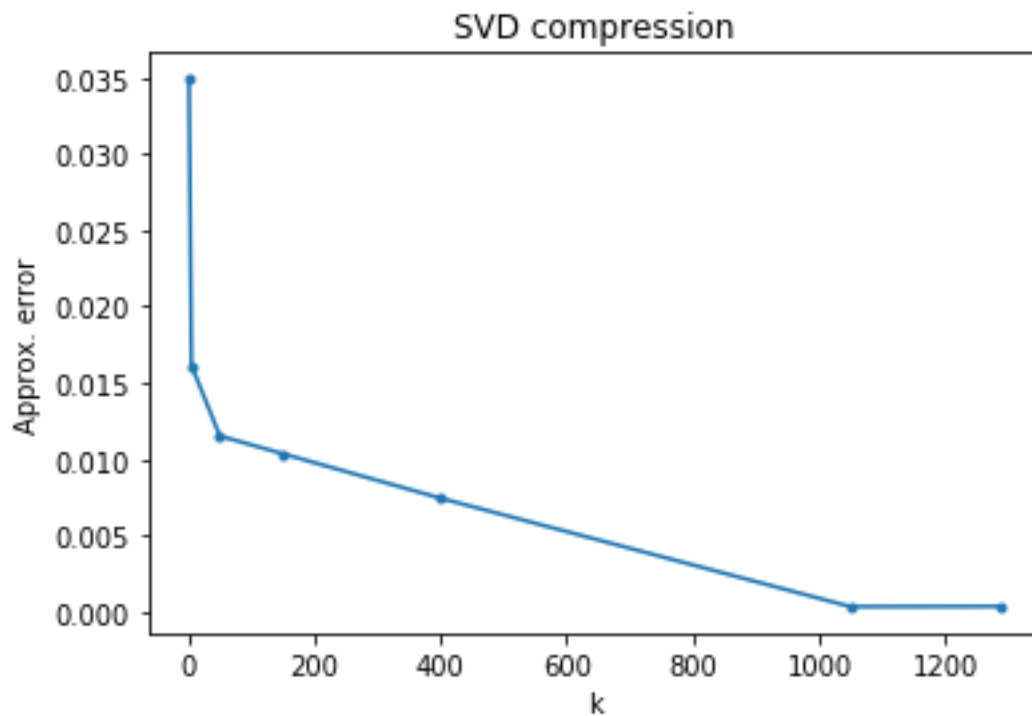


B06901160 電機二 翁挺瑋 HW6

1.



2. Analyze the rank of R channel of the provided image and explain how you analyze.

Perform SVD for k=1 ...

rank = 1

Perform SVD for k=5 ...

rank = 5

Perform SVD for k=50 ...

rank = 50

Perform SVD for k=150 ...

rank = 150

Perform SVD for k=400 ...

rank = 400

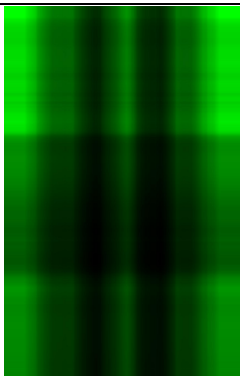
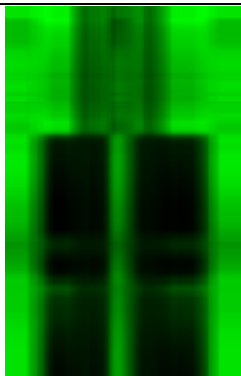
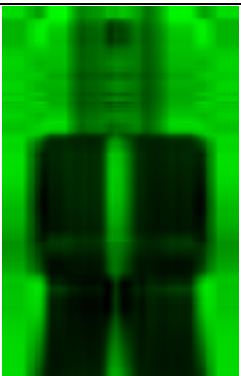
Perform SVD for k=1050 ...

rank = 1050

rank = 1066

We calculate the rank using `numpy.linalg.matrix_rank(imArr_compressed[:, :, 1])` when `(ch == 1)` which means channel Green. For the rank of $k = 1299$, since some sigma are zero, thus the rank is smaller than k .

3.

1	2	3
		
4	5	$\sum 1-5$
