Write a Python script that calculates approximations of an image using Singular Value Decomposition. The input image is available at

https://drive.google.com/file/d/13N5bDwcZc40myJc-usx7H1c9CdNyuFcl/view?usp=sharing

You may use library functions to read images from the file and calculate Singular Value Decomposition.

1) The image should be read in greyscale (see e.g. https://matplotlib.org/3.3.1/api/_as_gen/matplotlib.pyplot.imread.html)
2) For singular value decomposition, see https://numpy.org/doc/stable/reference/generated/numpy.linalg.svd.html

Submit the following files:

1) Source code written in **Python (.py or .ipynb)**
2) Doc or pdf file with image approximations constructed using k = 1,5,10,20,40 singular values