

1. General Comments

- Overall, I found that both mathematical derivation for the part A , and part B and Rcode for the exercise were excellent. Since I'm from the outside of the Stat department, I did my best for reviewing your work but, I'm afraid that my comments was not logical.
- I really enjoyed looking through your code and learned a lot from you.

2. Mathematical Derivation: I think you did an excellent job. Easy to understand and I really cannot find any suggestions or problems.

3. Codes

- Coding style: I referenced Google's R coding guidebook (<https://google.github.io/styleguide/Rguide.xml>)
 - You might give space after a comma. (e.g., `as.matrix(rdata[,2:501])`)
- I searched through the web and found that using "crossprod()" might be useful to compute symmetric matrices. (<https://stackoverflow.com/questions/35923787/fast-large-matrix-multiplication-in-r>). I actually did not use this function for my assignment but, many people recommended this function.
- Excellent job on QR decomposition and SVD decomposition. It would be great if you include Cholesky factorization or LU decomposition and comparing with others. In addition, If you visualize the results, this would be much appreciable for the readers.
- I think that providing both visual and table is really great for displaying the benchmarking results.