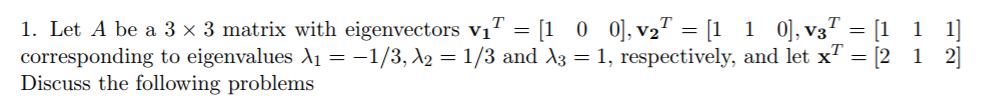
MTH27101: Methods of Applied Mathematics

Homework 2

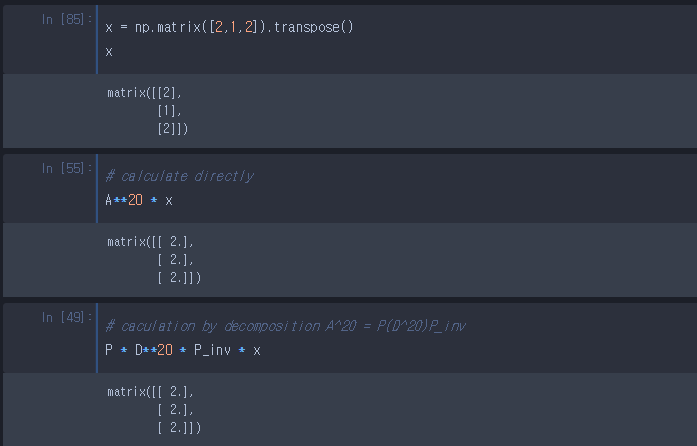
20121229 JunPyo Park

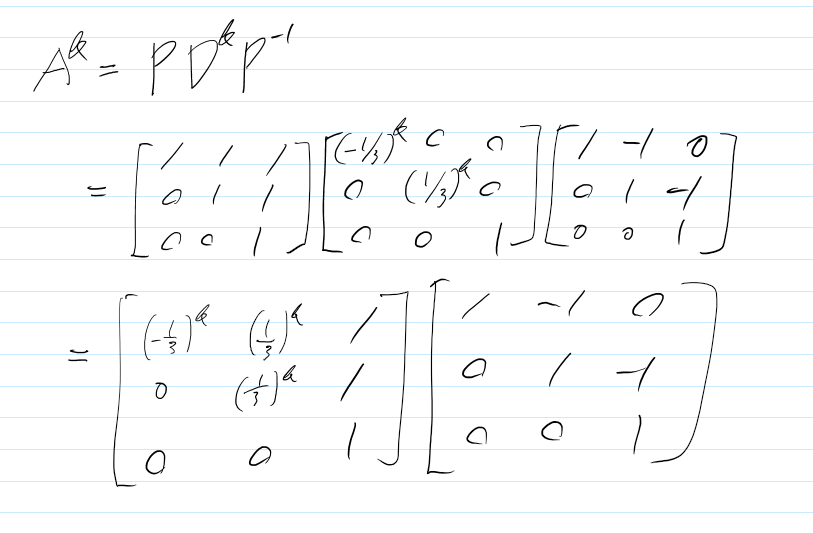
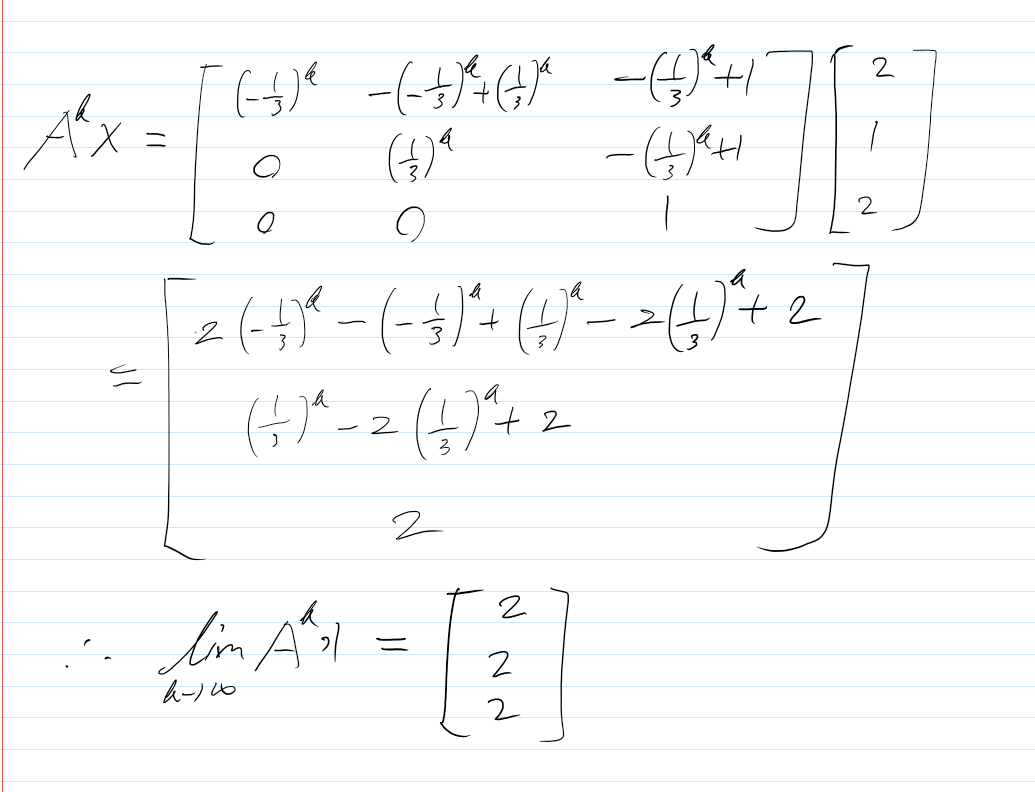


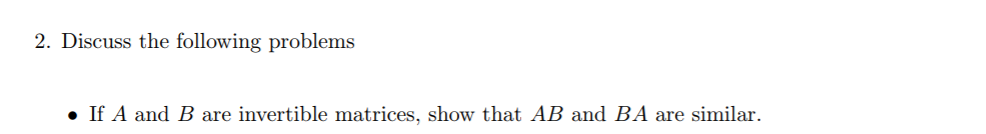
Matrix A can be calculated by following code.



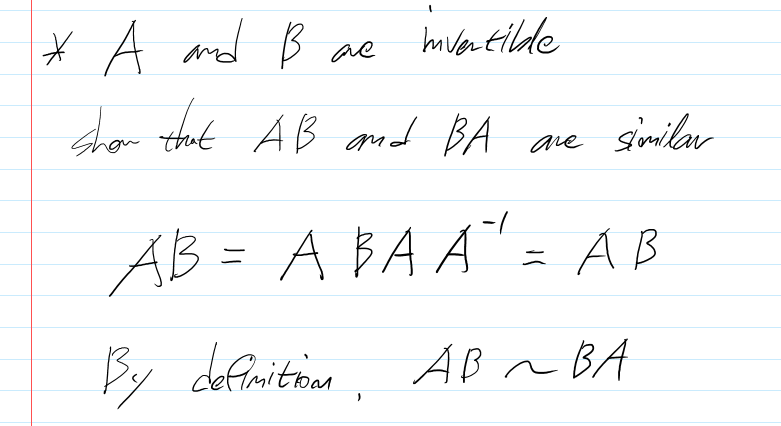
1. (A^20)x could be calculated as following code.

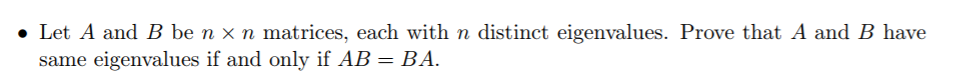


1.  

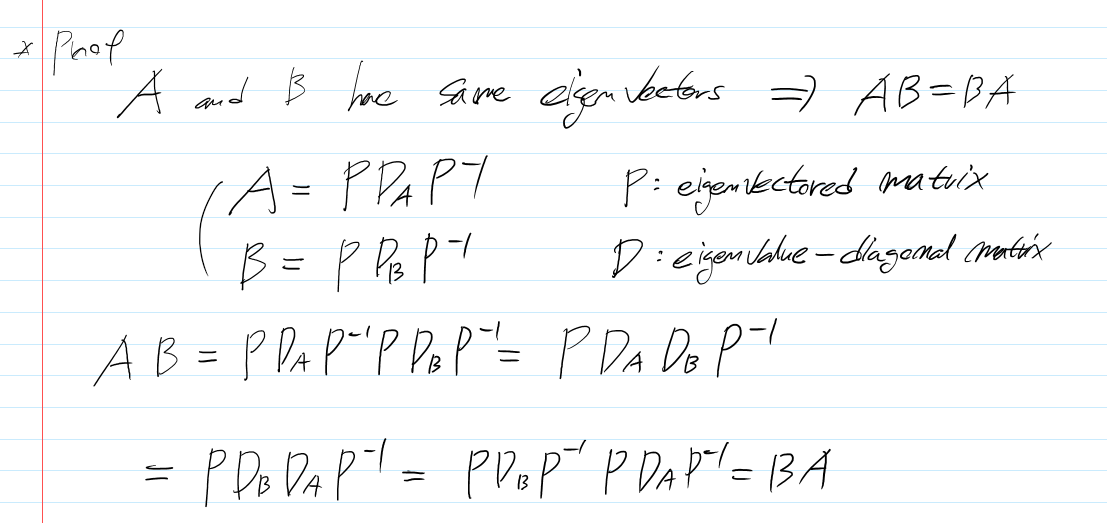


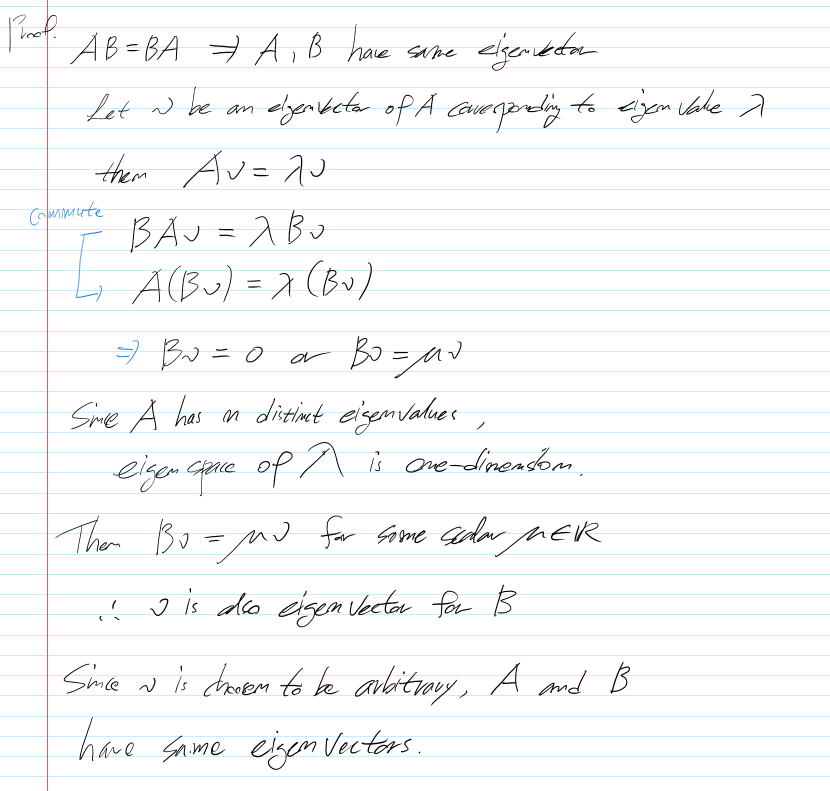
Solution

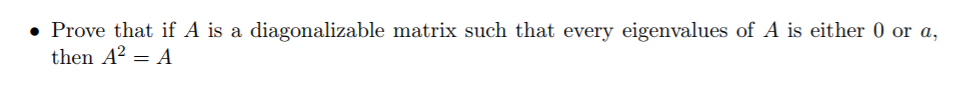


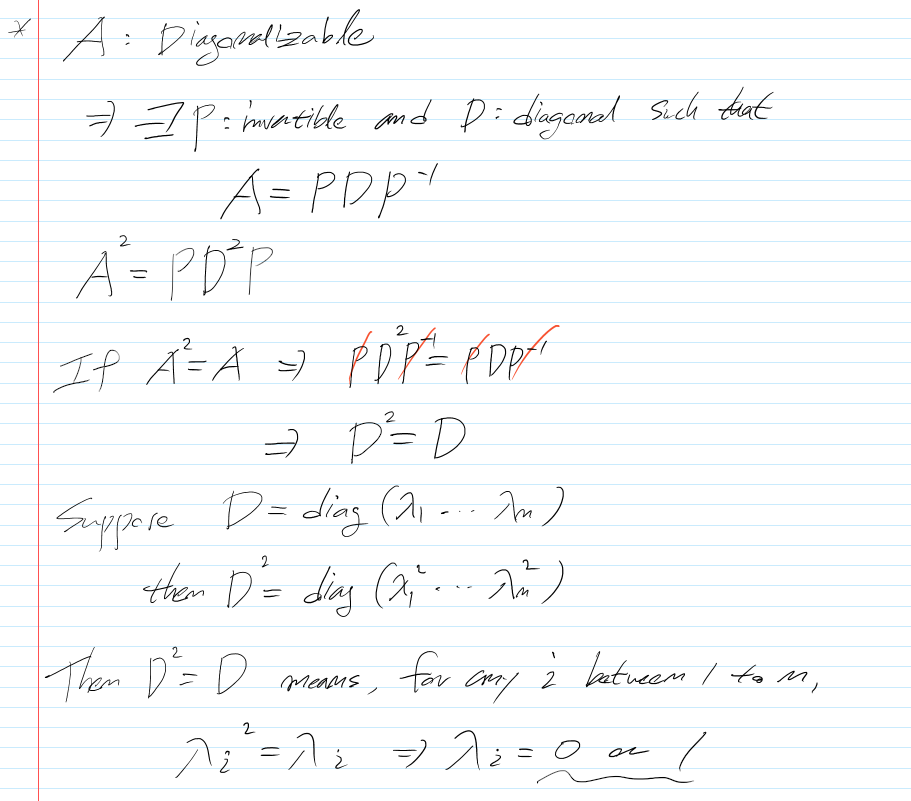


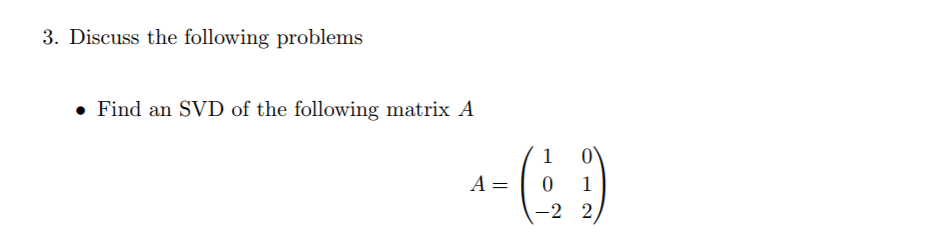
I think this is wrong, instead I prove for same eigenvector case.



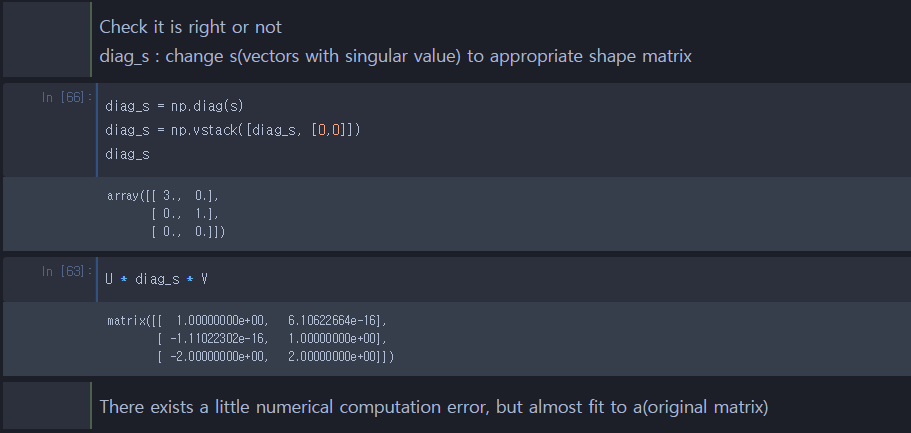
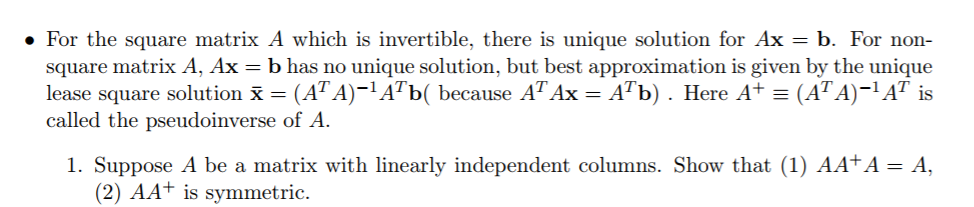




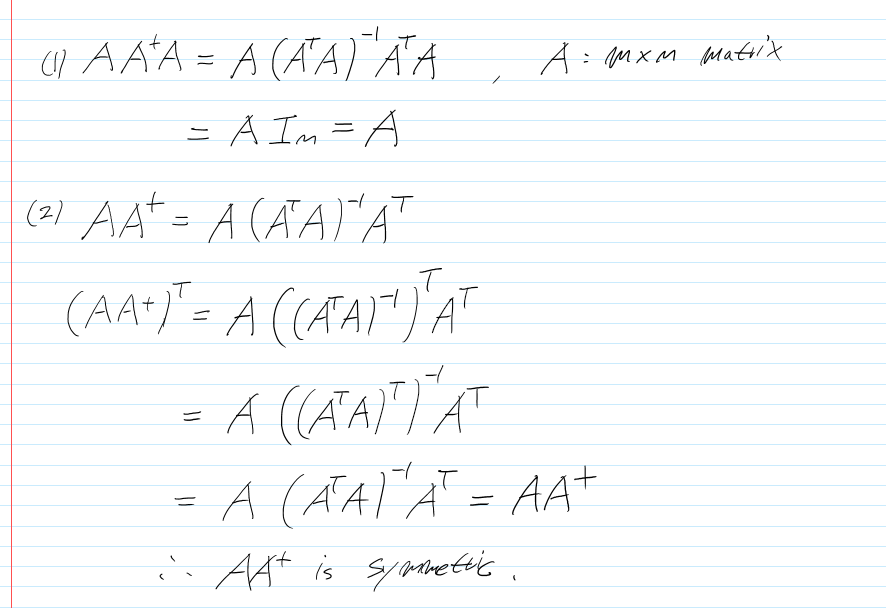


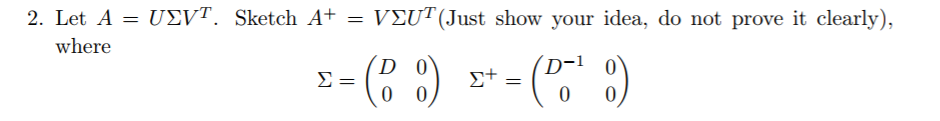
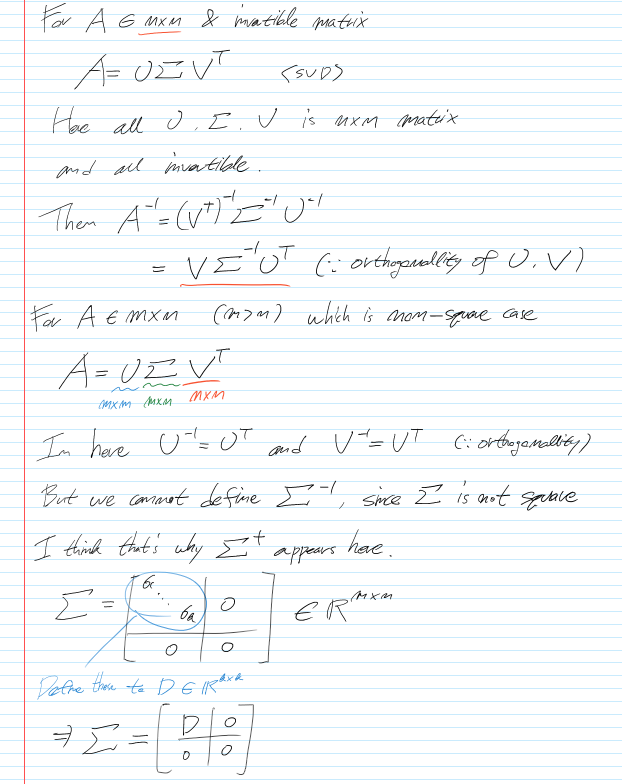


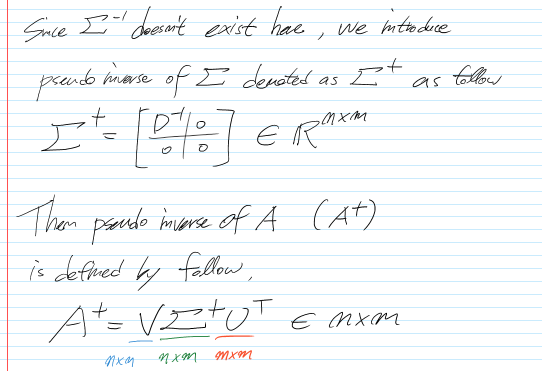
We can calculate SVD of the A by following codes.

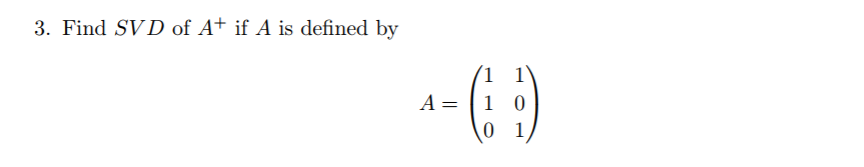
  

Proofs are following.







Calculation by Python, codes are following.

