

Midterm 2B

Problem 1. Consider the data matrix

$$A = \begin{bmatrix} 3 & 2 & 1 \\ -1 & 0 & -2 \end{bmatrix}.$$

- (A) Center the data.
- (B) Find the SVD for the centered A .
- (C) Compute A' , obtained by replacing the smallest singular value in Σ by 0.
- (D) What percentage of the total variance of A is preserved by A' ?