Answer the following questions and submit a pdf file with your answers in one week.

1. Explain the concept of Hadamard product with an example.
2. What is column space or the range of a matrix A?
3. What’s the meaning of linearly independent?
4. How to compute the L1 norm of a vector?
5. How to conduct the singular value decomposition (SVD) of a matrix?
6. What’s the Moore-Penrose pseudoinverse of a matrix?
7. Describe the principal components analysis or PCA algorithm.