1. Please do Question 1, 3, 5 and 8 in Practice exercise 1.

2. Let $f$ be a $N \times N$ image. Let $\vec{f} = Sf$ be the vectorized image of $f$, where $S$ is the stacking operator. Show that:

$$f = \sum_{n=1}^{N} N_n^T \vec{f}_n V^T$$

(Please refer to the symbols in the supplementary note 2)