Practical Test 2

$$X = \begin{bmatrix} 0.3 & 1.5 \\ 1.1 & 1.2 \\ 0.6 & 1.9 \\ 1.6 & 3.2 \\ 4.3 & 2.1 \end{bmatrix} \tag{1}$$

$$Y = \begin{bmatrix} 3.2 \\ 5.6 \\ 0.8 \\ 2.1 \\ 3.9 \end{bmatrix} \tag{2}$$

1.The right singular vector matrix；

2.New Representation Matrix based on T1;

3-5 Regression Model.

Tikhonov Regularization

$W = (D^T D + \lambda I)^{-1} D^T y$

3.Calculate D；

4.Calculate W， when $\lambda = 205$

5.Predict y when x = [0.4,0.3]