if λ is the eigenvalue for matrix covariance C then :

$$CW = \lambda W$$

Therfore to get top k principle components all we need to do is to find the eigenvalues and its related eigenvectors. Pick the largest eigenvalue $\textcircled{$\lambda_1$}$ and related eigenvector as first component, the second λ_2 and its eigenvector. as second principle, ooo