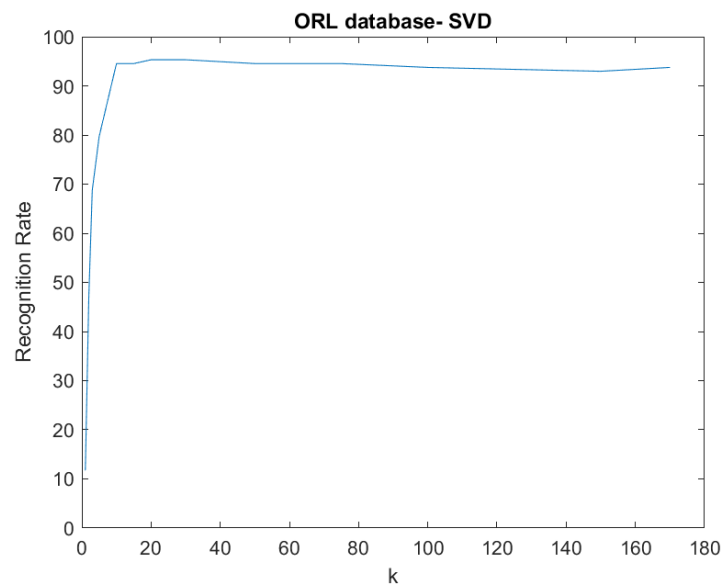**Assignment 4 Question 4-**

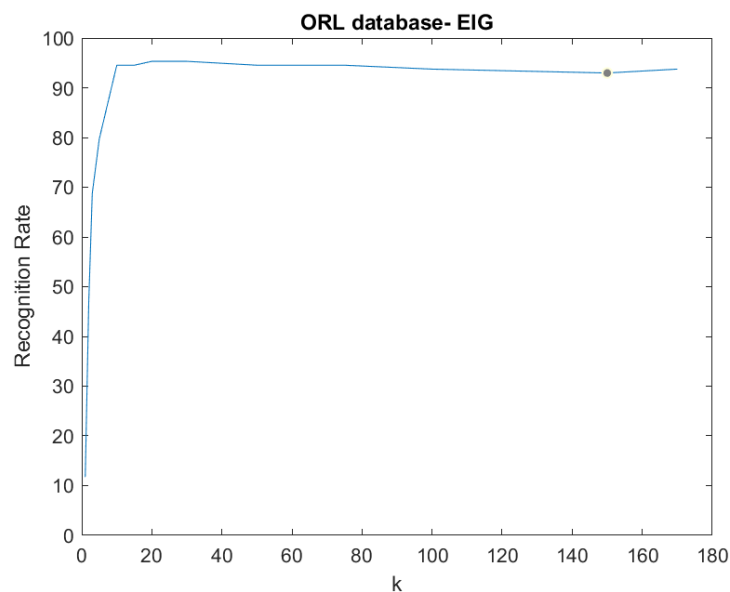**Mini face recognition system**

In this question, we make a mini-face recognition system using SVD and eig methods. The system is tested on the ORL and the Yale database of faces. Various values of k are used to examine the face recognition system and the obtained recognition rates are plotted as a function of k to summarize the results. The results obtained are as follows.

1. ORL Database
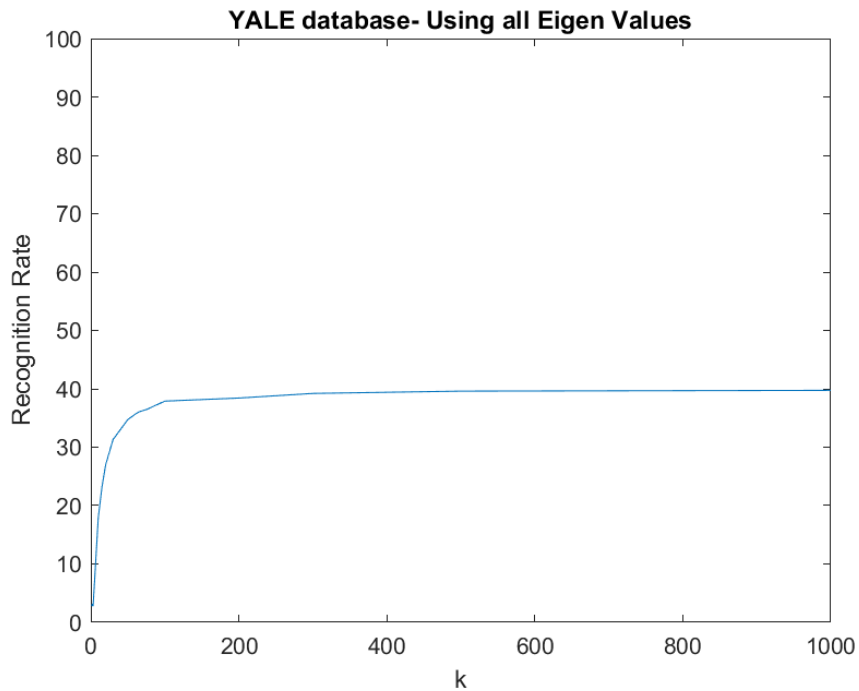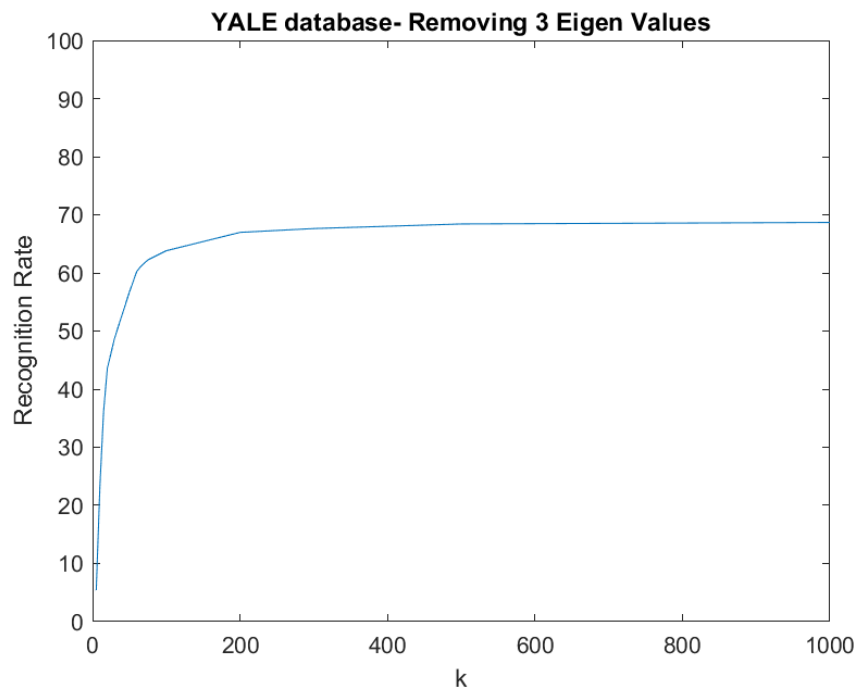
1.1 Using SVD

1.2 Using eig

Thus, as seen from the above graphs, similar performance is obtained using both methods giving a recognition rate of around 95%.

2. YALE Database

2.1 Using all eigen values

2.2 Removing top 3 eigen values

As seen from the above graphs, the recognition rate increase from around 40% to 70% when the top 3 eigen values are removed leading to better performance.