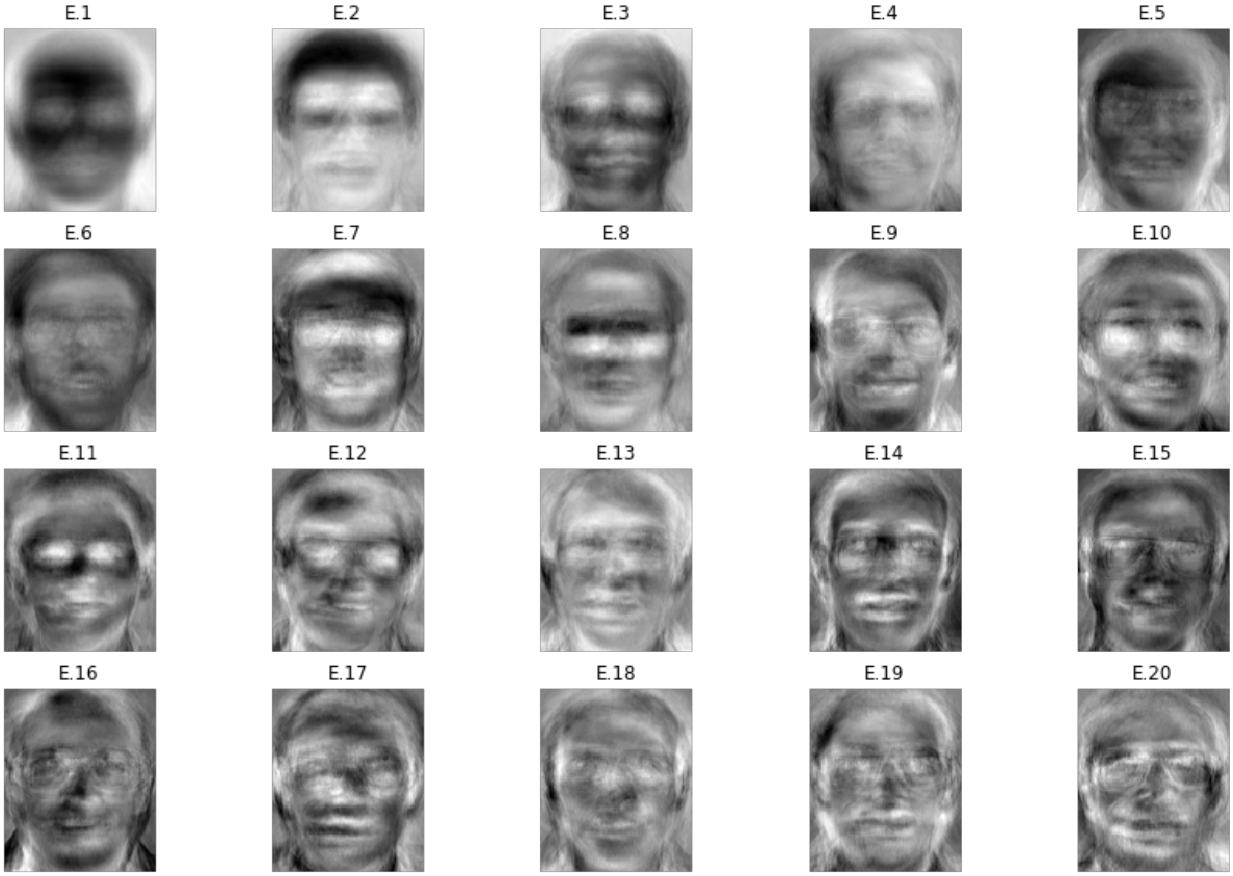
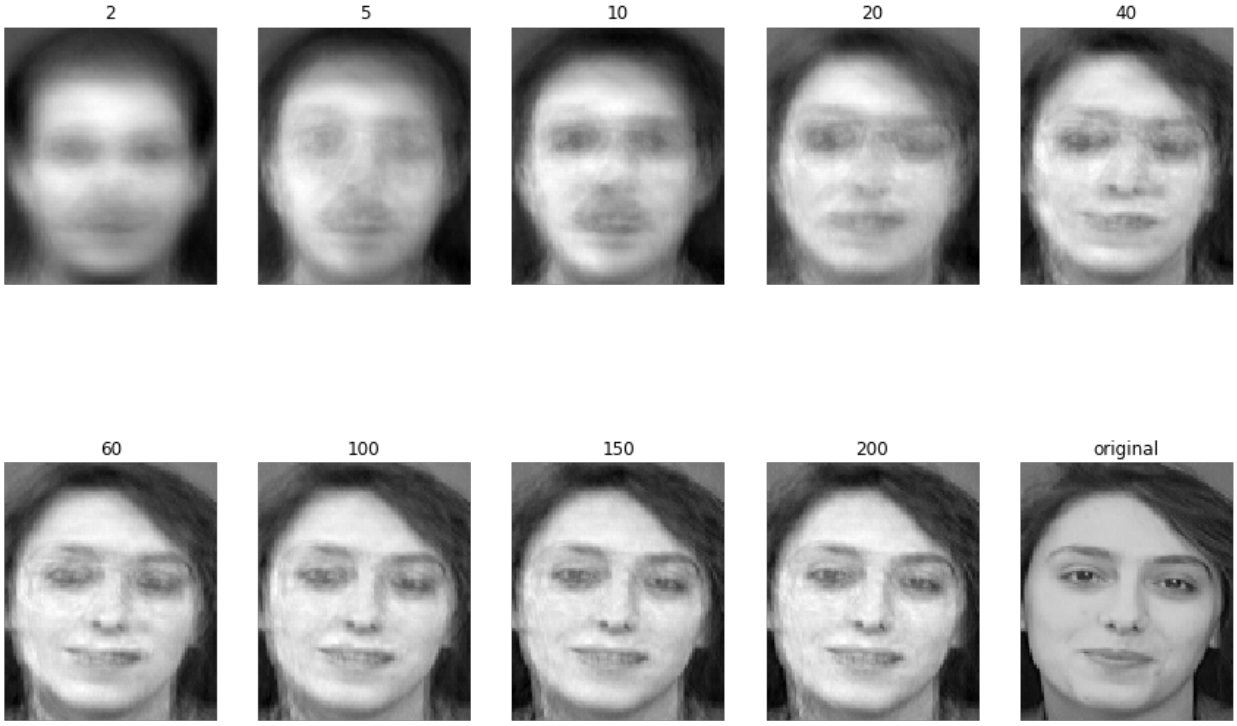
Giray Eryılmaz Assignment3 eport

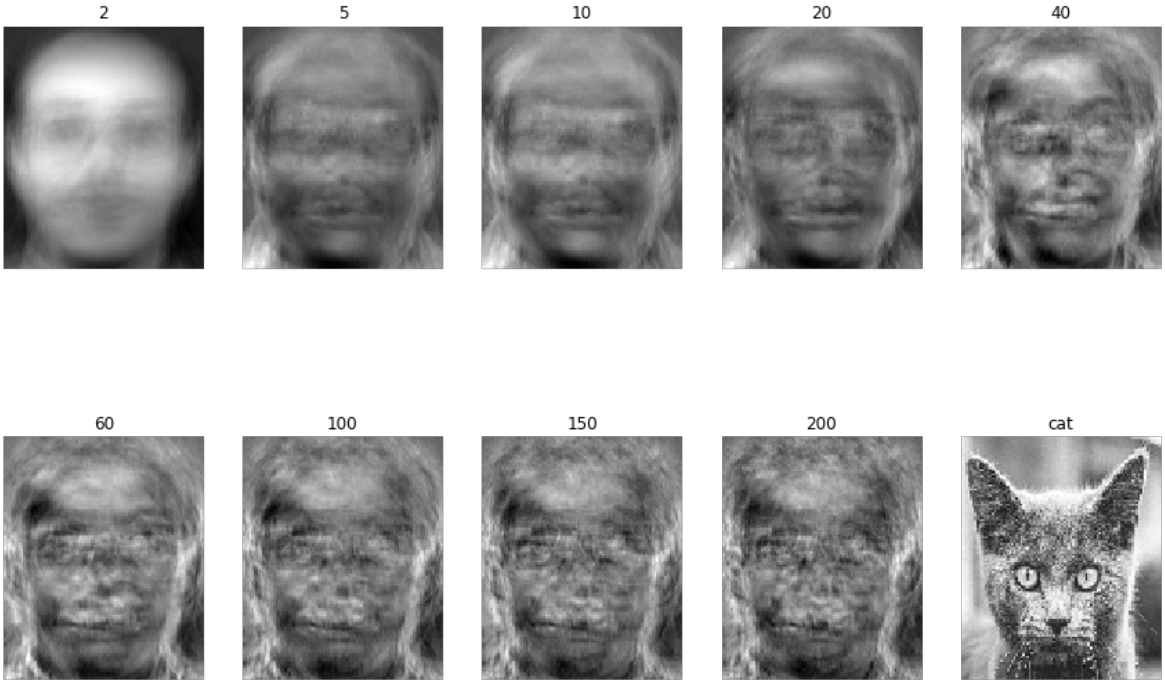
1- First 20 eigen faces:



2- Reconstruction of a human face:

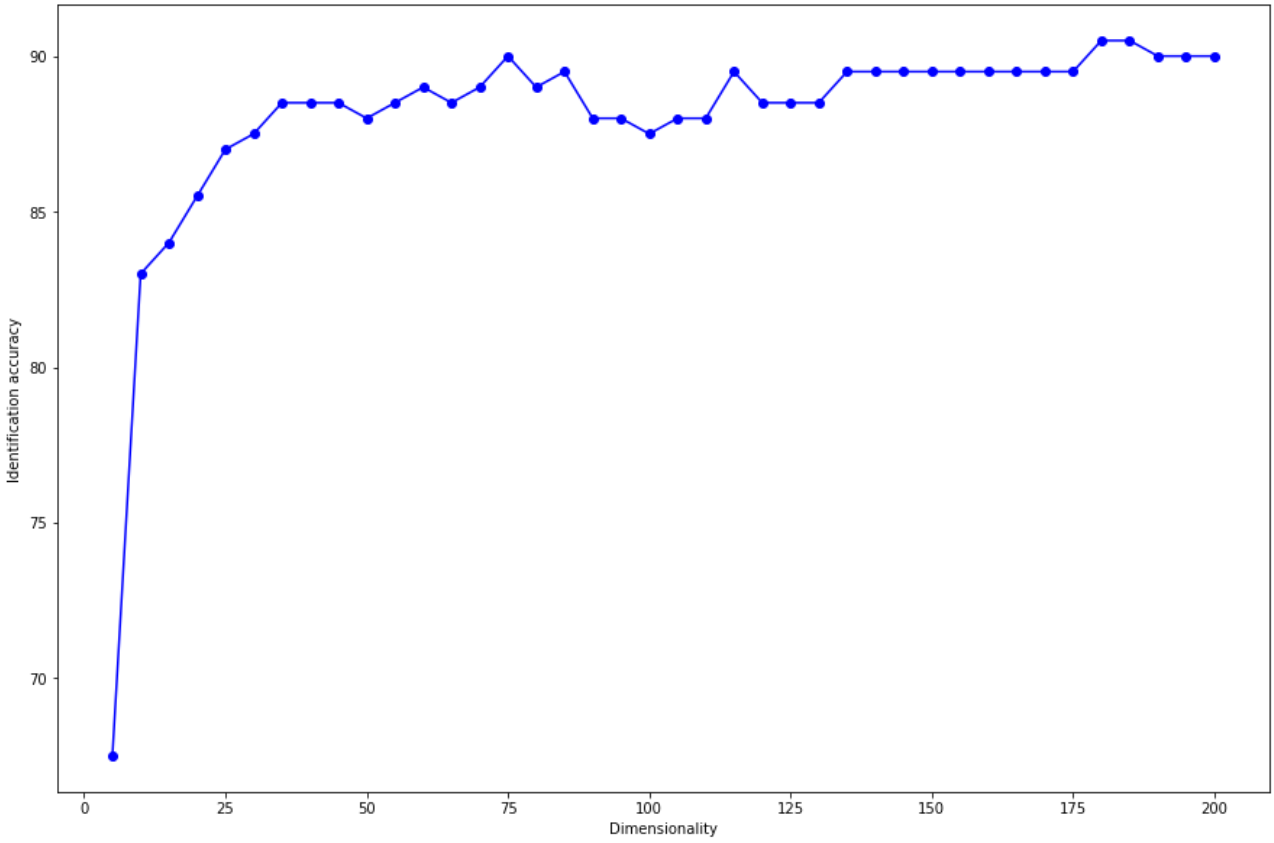


- Reconstruction of an non human face



Reconstruction of human images is much more successful compared to non-face images. This is because the system is trained on human faces and tries to reconstruct human faces regardless of given image.

3-Identification accuracy vs Eigenface dimensionality.



- The performance of the Eigenface based face recognizer with respect to feature dimensionality.

Number of Eigenfaces	Variance Explained	Identification Rate
1	90.76%	9.0%
5	94.47%	67.5%
10	95.93%	83.0%
15	96.63%	84.0%
20	97.11%	85.5%
25	97.46%	87.0%
30	97.74%	87.5%
35	97.97%	88.5%
40	98.17%	88.5%
45	98.34%	88.5%
50	98.49%	88.0%
55	98.62%	88.5%
60	98.73%	89.0%
65	98.83%	88.5%
70	98.93%	89.0%
75	99.01%	90.0%
80	99.09%	89.0%
85	99.17%	89.5%
90	99.23%	88.0%
95	99.30%	88.0%
100	99.36%	87.5%
105	99.41%	88.0%
110	99.46%	88.0%
115	99.51%	89.5%
120	99.55%	88.5%
125	99.60%	88.5%
130	99.64%	88.5%
135	99.68%	89.5%
140	99.71%	89.5%
145	99.75%	89.5%
150	99.78%	89.5%
155	99.81%	89.5%
160	99.84%	89.5%
165	99.86%	89.5%
170	99.89%	89.5%
175	99.91%	89.5%
180	99.93%	90.5%
185	99.95%	90.5%
190	99.97%	90.0%
195	99.98%	90.0%
200	100.0%	90.0%