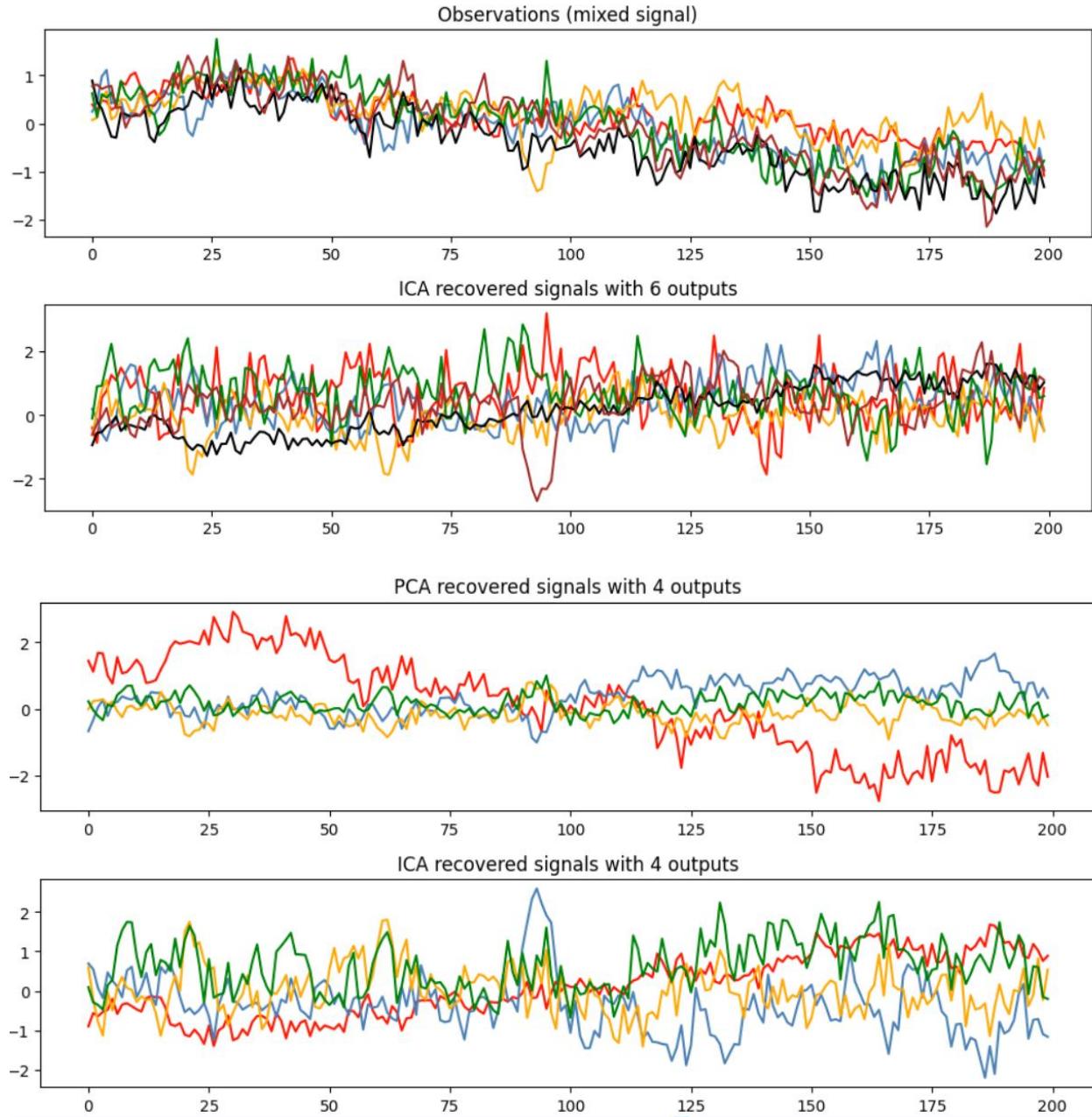


HW 7: Important Figures and Questions

The four plots showing the mixed signals and the recovered signals using the three different techniques specified in the assignment are shown below:



Question:

Since micro123 and micro456 electrodes should not be well correlated, did ICA separate inputs from the two different electrode sets? **No**

The ICA analysis focuses on statistical independence of signals, it has no information telling it that the six channels are actually from two different electrode sets. The beginning of the code combines the two sets into one set, and then the ICA analysis is performed on this combined set. As we see in the graphs above, the recovered signals look like a mixture of the sources from both electrode sets, there is no clear separation. This is because the signals captured by micro123 and micro456 are dependent on each other, they are not independent sources. Both capture brain activity that is presumably similar in nature. There is common neurological activity in both sets. Due to this commonality between the two sets, the ICA analysis cannot separate them as the two sets are not independent.