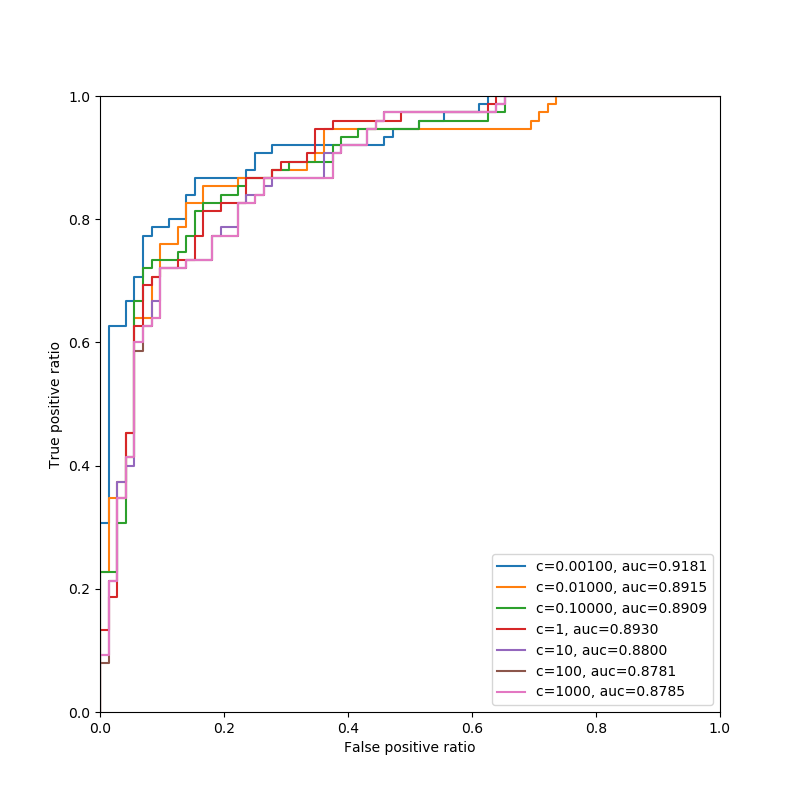
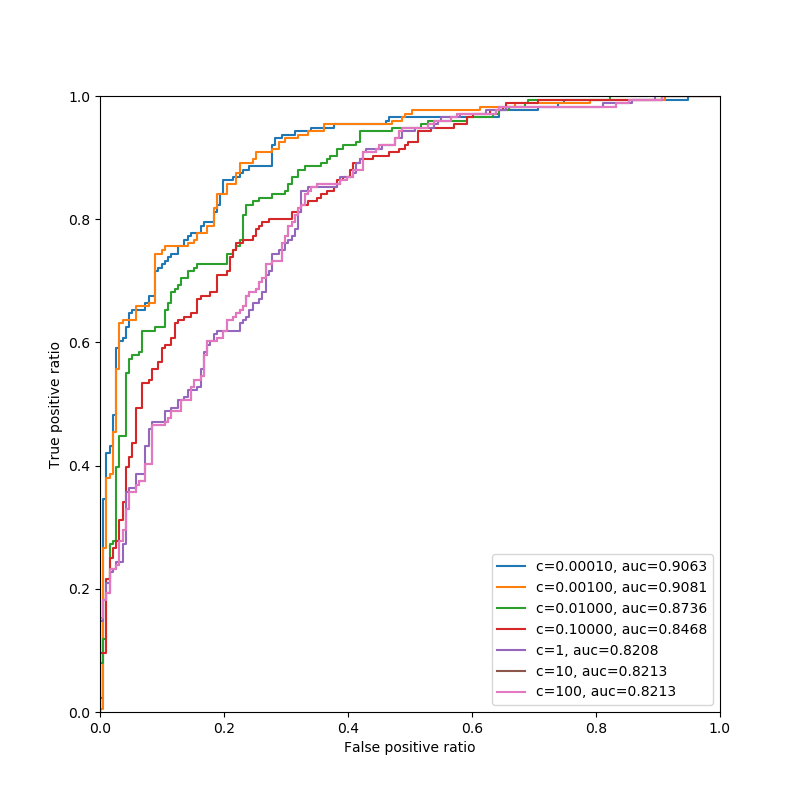
**Question 2:**

For train size 80%:

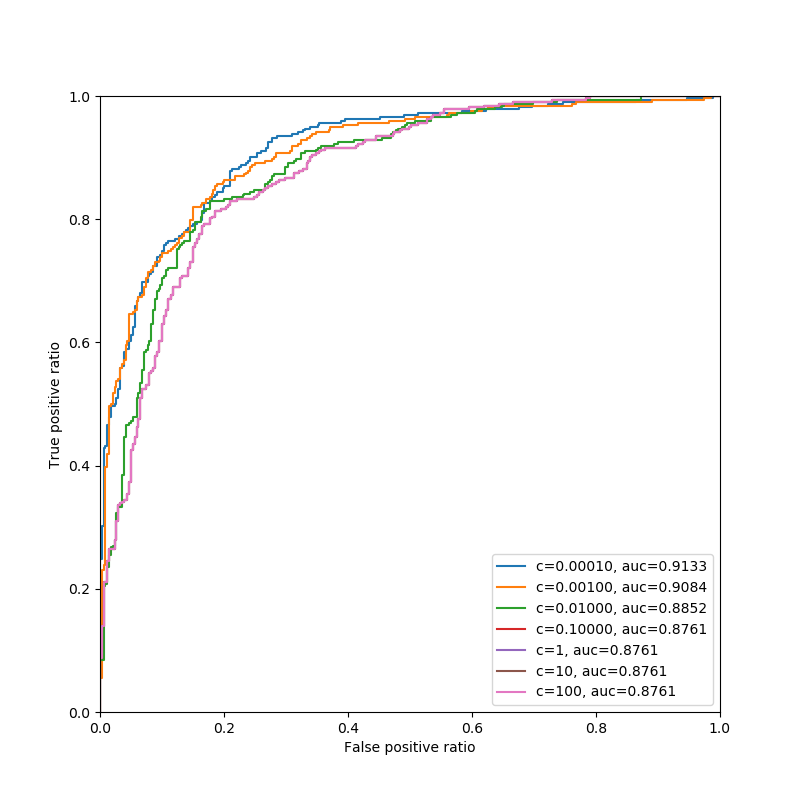


We can see the best auc is for c=0.001.

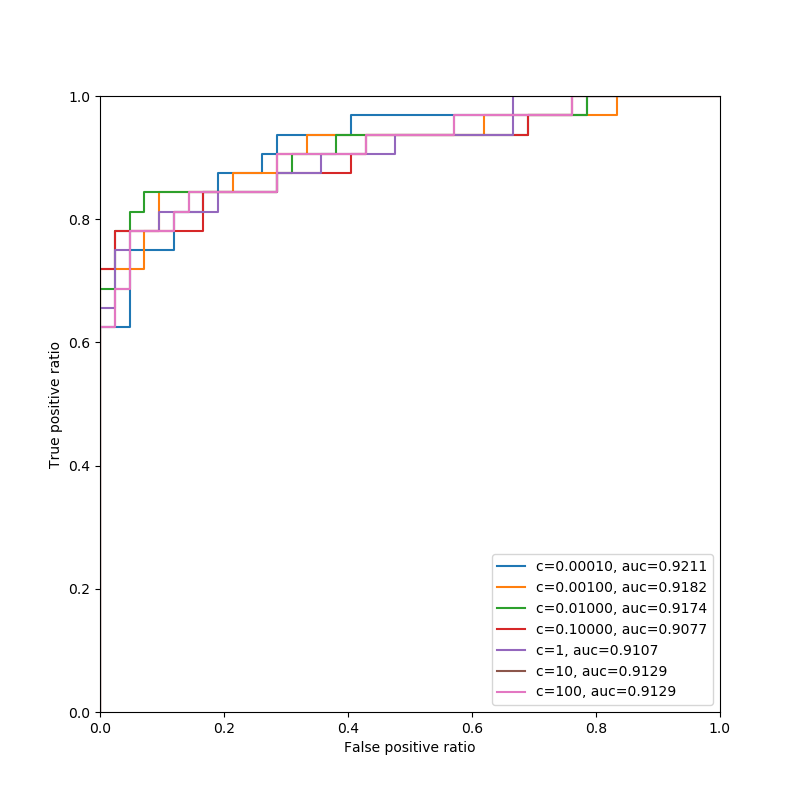
For train size 50%:



Train size 10%:



Train size 90%:



Indeed, as training set size grows, so do the results get better (larger auc).

We can’t increase the train size indefinitely because then the test size shrinks, and results would become statistically insignificant.