Suppose that a classification training algorithm requires $O(n^r)$ time for training on a data set of size $n$. Here $r$ is assumed to be larger than 1. Consider a data set with a perfectly even distribution across $k$ different classes.

As an example case, consider $r = 3$, $n = 1000$ and $k = 5$. Compare the running time of the one-against-rest approach with that of the one-against-one approach.
Q1.2: Unbalance

Compare the characteristics of resampling vs. reweighting when dealing with unbalanced datasets.

efficiency
flexibility
out of the box
randomness
Boosting is a \{ data-centered, model-centered \} ensemble learning approach aiming to reduce \{ bias, variance \}.
Q1.4: Bag and boost

Would you rather use a *linear SVM* or a *kernel SVM*?

i) To create the ensemble components in *bagging*

ii) To create the ensemble components in *boosting*