Linear and Nonlinear Test: I use the same function f as in SimData.

This test is for testing RF and FF in terms of grouped or ungrouped features as well as the number of samples.

Linear Task

1. When n=100 and no grouped features: RF gets 4/6 and FF gets 4/6 (in top 8) (if there are no grouped features, RF and FF should be the same)

2. When n=100 and grouped features (which is the same setting as reduced_linear): RF gets 2/6 (and sucks) and FF gets 3/6

3. When n=500 and no grouped features: RF gets all of them (perfect!) and FF gets all of them, too.

4. When n=500 and grouped features: RF gets 4/6 and miss too independent ones 302&303; FF gets all of them (in top8, the two independent ones rank 7 and 8th)

Nonlinear Task

1. When n=100 and no grouped features: RF gets 2/6 and FF gets 2/6 (in top 8)   (worse than linear task)

2. When n=100 and grouped features (which is the same setting as reduced_linear): RF gets 2/6 (but a little bit better

than the linear task) and FF gets 3/6

3. When n=500 and no grouped features: RF gets all of them (perfect!) and FF gets all of them, too. (In both, ranking is perfect)

4. When n=500 and grouped features: RF gets 4/6 and miss too independent ones 302&303; FF gets all of them (in top8, the two independent ones rank 7 and 8th)

Another observation: If we use grouped features, RF will miss independent features and it will favor features in the first group (the same group as feature 1,2 and 3). The reason is that despite the positive coefficient of feature 302&303, the features in the first group is very "similar" to feature 1,2&3 and are stronger than 302&303.