两个算法可以直接合成一个，在最下面

# 一

//Random Forest model is utilized for training, prediction, and assessing feature importance.

Algorithm 1: Random Forest Classifier Training

Data:

Training dataset: X\_train, y\_train

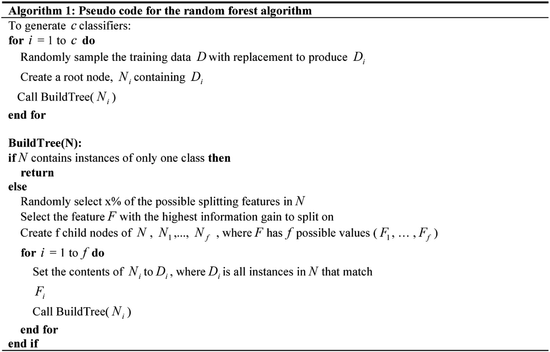
Testing dataset: X\_test, y\_test

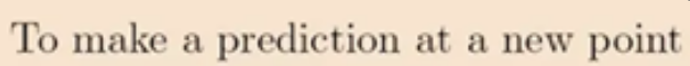
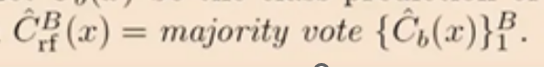
Results:

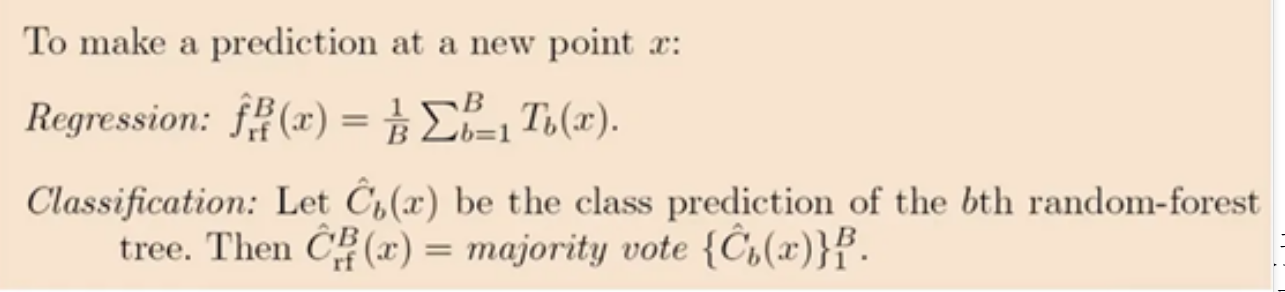
Trained model: model

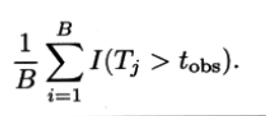
Accuracy: actual\_acc

中间流程：（这个title不显示）

1. 

2  x，

（这一问的x换成*X\_test*，得到那个叫*y\_pred*）

3 *actual\_acc* <- *I(y\_pred == y\_test)*/ len(y\_test)（这个B可以不换，如果橙色图片里的B没换的话）

# 二

-----------------------------------------------------------------------------------------------------

//Permutation test is employed to assess the statistical significance of the model's accuracy under the null hypothesis.

Algorithm 2: Permutation Test

Data:

Real results of the test set *y\_test*

Predicted results of the model on the test set *y\_pred*

Results:

List of accuracy values generated during iterations *acc\_list*

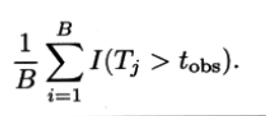
Probability *p*

1 *n* <- 1000

2 for *i* <- 1 to *n* do

3 *y\_perm* <- random\_permutation(*y\_test*)

4 *acc\_list[i]* <- accuracy\_score(*y\_perm*, *y\_pred*)

6 *p* <- * I(acc\_list >= actual\_acc)*图片中的B换成n

**7 return** *p*

# 三

Algorithm: Random Forest Prediction and Permutation Test

Data:

Training dataset: X\_train, y\_train

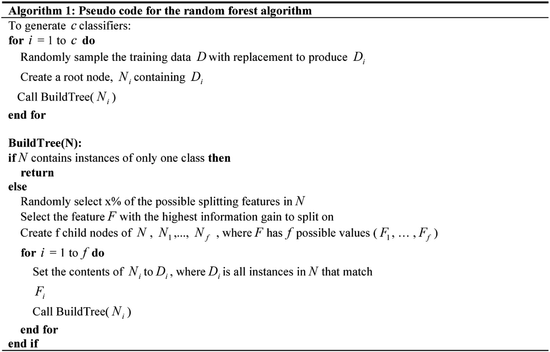
Testing dataset: X\_test, y\_test

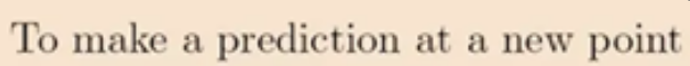
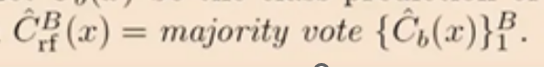
Results:

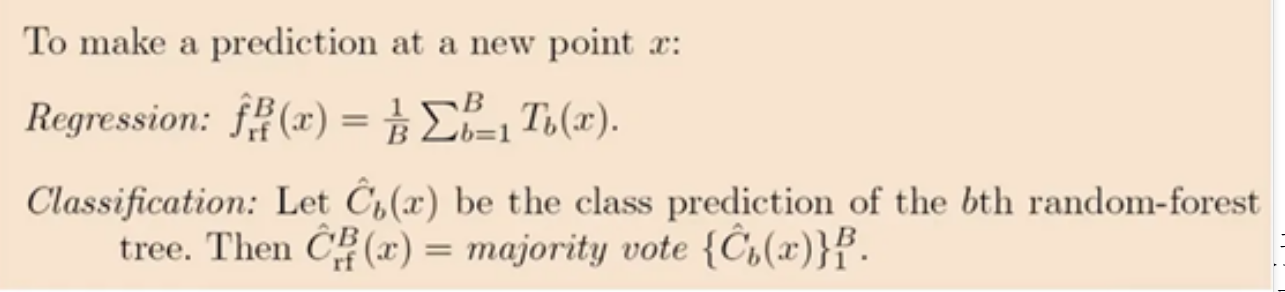
List of accuracy values generated during iterations *acc\_list*

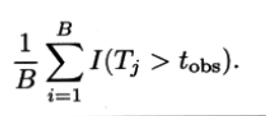
Probability *p*

中间流程：（这个title不显示）

1. 

2  x，

（这一问的x换成*X\_test*，得到那个叫*y\_pred*）

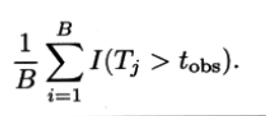
3 *actual\_acc* <- *I(y\_pred == y\_test)*/ len(y\_test)（这个B可以不换，如果橙色图片里的B没换的话）

4 *n* <- 1000

5 for *i* <- 1 to *n* do

6 *y\_perm* <- random\_permutation(*y\_test*)

7 *acc\_list[i]* <- accuracy\_score(*y\_perm*, *y\_pred*)

8 *p* <- * I(acc\_list >= actual\_acc)*图片中的B换成n

**9 return** *p*