Assignment #6

머신러닝 이론과 실전 Due: October 18, 2021

1. Write your own code for 1-level decision tree. ‘1-level decision tree’ means a tree that splits only the root node.
    a. Use a file named “pid.dat” for the training and ‘pidtest.dat’ as the test data.
    b. Make your program to implement 1-level decision tree only for two classes.
    c. Find CART splitting rule assuming all variables are continuous, then split the current node into two subnodes. (Categorical variables are not considered in this assignment)
    d. Print out the 1-level tree information and number of observations from each class (see below).

The output file for classification generated by the program must look like

```
Tree Structure
      Node 1: x3 <= 1.740 (21, 25)
        Node 2: 1 (18, 2)
        Node 3: 2 (3, 23)

Confusion Matrix (Test)
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                   Predicted Class
                      1       2
Actual      1       239      14
Class       2        12     153

Model Summary (Test)
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Overall accuracy = .793
```

** 데이터가 바뀌어도 에러없이 수행될 수 있도록 코드를 짜시기 바랍니다.
** Please write the code so that it can be executed without errors even if the data is changed.