Homework12

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## homework 12

#### F test

Using the F test to compare the extended tree model over the additive tree model. According to the output of sport data, (number of pair of proximities), , , , and . Consequently,

1- pf(q = 7.76,df1 = 37-9,df2 = 170-37)

## [1] 0

The P-value is almost 0, which indicates that the model has a significant imporve over the addtive tree.

#### Interpretation

The additive tree summary 10 subset in clustering solution. Based on the characteristic of each subset, we can interprete it as:

C: table sports

D: sports with slow movemen

E: high body contact and fighting

H: sports related to quick and consistant jumping.

I: water sports

N: slide on a surface

O: related to hunting

U: outdoor sports

X: ball sports

By looking at the tree, we find that some of the sports have multiple marked features, like surfing (I/N), canoeing (I/U), camping (O/U), boxing (E/H) and archery (DOU). Those sports share two or more common points with other sports. For example, canoeing is a water sports (like sports in I) and also an outdoor sport (like sports in U).