Activity 6 - R Programming - If condition and Nested loop

Aryan Khandelwal

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1. Let’s write if and else statement and nested for loop.
2. We have a vector of area codes and we want to recode them as either in New York or outside New York. Show a frequency table displaying how many are in NY and outside NY.

area.codes <- c(865,865,423,615,615,206,626,514,308,308,514,931,425,212,917,585,607,718,347,929) #data  
ny.codes <- c(212,332,646,917,315,516,518,585,607,631,716,718,845,914,680,838,934,347,929) #area codes in NY  
in.ny = c()  
for(i in 1:length(area.codes)){  
 if(area.codes[i] %in% ny.codes)(in.ny[i]="yes")else((in.ny[i]="no"))  
}  
in.ny = factor(in.ny)  
table(in.ny)  
## in.ny  
## no yes   
## 13 7

1. In the CUSTLOYALTY data in regclass, the lifetime values and total transactions of customers are recorded along with some of their characteristics. Let’s find the average total transactions for each of the 6 income groups for married, then do the same again for single. Show a matrix that reports the average total transactions for each income group and marital status.

library(regclass)  
## Loading required package: bestglm  
## Loading required package: leaps  
## Loading required package: VGAM  
## Loading required package: stats4  
## Loading required package: splines  
## Loading required package: rpart  
## Loading required package: randomForest  
## randomForest 4.7-1  
## Type rfNews() to see new features/changes/bug fixes.  
## Important regclass change from 1.3:  
## All functions that had a . in the name now have an \_  
## all.correlations -> all\_correlations, cor.demo -> cor\_demo, etc.  
data(CUSTLOYALTY)  
names(CUSTLOYALTY)  
## [1] "Gender" "Married" "Income" "FirstPurchase" "LoyaltyCard" "WalletShare" "CustomerLV" "TotTransactions"  
## [9] "LastTransaction"  
  
VALUE = matrix(0, nrow = nlevels(CUSTLOYALTY$Married),  
 ncol = nlevels(CUSTLOYALTY$Income))  
rownames(VALUE)<- levels(CUSTLOYALTY$Married)  
colnames(VALUE)<- levels(CUSTLOYALTY$Income)  
  
for(married in levels(CUSTLOYALTY$Married)){  
 for (income in levels(CUSTLOYALTY$Income)){  
 SUB <- subset(CUSTLOYALTY, Married == married & Income == income)  
 VALUE[married, income] = mean(SUB$TotTransactions)  
 }  
}  
VALUE  
## f0t30 f30t45 f45t60 f60t75 f75t90 f90toINF  
## Married 2.909091 5.241379 5.600000 8.52381 7.125000 9.250000  
## Single 3.611111 5.044118 6.313433 6.80000 7.402778 7.955556