Workshop 4.17 Solution

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## Load recommenderlab

library(dplyr)  
library(ggplot2)  
library(recommenderlab)

Some of the preloaded datasets that come with recommenderlab for learning and exploring.

help(package = "recommenderlab")  
datasets\_available <- data(package = "recommenderlab")  
datasets\_available$results[,4] # titles

[1] "Jester dataset (5k sample)"   
[2] "Jester dataset (5k sample)"   
[3] "Anonymous web data from www.microsoft.com"  
[4] "MovieLense Dataset (100k)"   
[5] "MovieLense Dataset (100k)"

We’ll work with the already available *Jester* dataset.

data("Jester5k") # loads dataset  
class(Jester5k)

[1] "realRatingMatrix"  
attr(,"package")  
[1] "recommenderlab"

jester\_r <- Jester5k   
remove(Jester5k)

## Recommender Algorithms Available

The recommender algorithms are stored in a registry object called recommenderRegistry. We can get a look at the different models based on the different matrix types.

names(recommenderRegistry$get\_entries())

[1] "ALS\_realRatingMatrix" "ALS\_implicit\_realRatingMatrix"   
 [3] "ALS\_implicit\_binaryRatingMatrix" "AR\_binaryRatingMatrix"   
 [5] "IBCF\_binaryRatingMatrix" "IBCF\_realRatingMatrix"   
 [7] "LIBMF\_realRatingMatrix" "POPULAR\_binaryRatingMatrix"   
 [9] "POPULAR\_realRatingMatrix" "RANDOM\_realRatingMatrix"   
[11] "RANDOM\_binaryRatingMatrix" "RERECOMMEND\_realRatingMatrix"   
[13] "RERECOMMEND\_binaryRatingMatrix" "SVD\_realRatingMatrix"   
[15] "SVDF\_realRatingMatrix" "UBCF\_binaryRatingMatrix"   
[17] "UBCF\_realRatingMatrix"

### Split Data

train <- jester\_r[1:500]  
test <- jester\_r[501:502]

### Create Hybrid Recommender

recom <- HybridRecommender(  
 Recommender(train, method = "POPULAR"),  
 Recommender(train, method = "RANDOM"),  
 Recommender(train, method = "UBCF"),  
 weights = c(.2, .3, .5)  
)  
recom

Recommender of type 'HYBRID' for 'ratingMatrix'   
learned using NA users.

### Prediction

as(predict(recom, test), "list")

$u16378  
 [1] "j98" "j89" "j75" "j83" "j84" "j88" "j81" "j86" "j92" "j76"  
  
$u19612  
 [1] "j76" "j80" "j93" "j89" "j78" "j87" "j85" "j83" "j79" "j95"