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library(tidyr)
library(qcc)
data(pistonrings)
attach(pistonrings)
summary(pistonrings)
pistonrings
#####
Reps<-rep(c("R1","R2","R3","R4","R5"),40)
SPCData <- data.frame(pistonrings,Reps)
SPCData <- spread(SPCData,Reps,diameter)
SPCData <- SPCData[,-1]
SPCData <- SPCData[,-1]

set.seed(1452);SPC2 <- sample(rbind(SPCData,SPCData,SPCData[1:20,]))

#####

set.seed(1126);SPC3<-2*round(SPC2+ matrix(rnorm(500)/5,nrow=100),3)+2
set.seed(2345);SPC4<-2*round(SPC2+ matrix(rnorm(500)/4,nrow=100),3)
set.seed(3456);SPC5<-1.5*round(SPC2+ matrix(rnorm(500)/3,nrow=100),3)
set.seed(4567);SPC6<-2*round(SPC2+ matrix(rnorm(500)/2.6,nrow=100),3)
set.seed(5678);SPC7<-2.1*round(SPC2+ matrix(rnorm(500)/1.5,nrow=100),3)
set.seed(2345);SPC8<-2*round(SPC2+ matrix(rnorm(500)/4.2,nrow=100),3)
set.seed(3416);SPC9<-2.5*round(SPC2+ matrix(rnorm(500)/3.2,nrow=100),3)
set.seed(4920);SPC10<-2*round(SPC2+ matrix(rnorm(500)/2.4,nrow=100),3)
set.seed(5371);SPC11<-3*round(SPC2+ matrix(rnorm(500)/1.5,nrow=100),3)
set.seed(4947);SPC12<-2*round(SPC2+ matrix(rnorm(500)/2,nrow=100),3)
set.seed(5388);SPC13<-3.1*round(SPC2+ matrix(rnorm(500)/1.5,nrow=100),3)
set.seed(2365);SPC14<-2*round(SPC2+ matrix(rnorm(500)/4.2,nrow=100),3)
set.seed(3256);SPC15<-2.5*round(SPC2+ matrix(rnorm(500)/3.2,nrow=100),3)
set.seed(1927);SPC16<-2*round(SPC2+ matrix(rnorm(500)/2.4,nrow=100),3)
set.seed(5318);SPC17<-3.5*round(SPC2+ matrix(rnorm(500)/1.5,nrow=100),3)
set.seed(4127);SPC18<-2.8*round(SPC2+ matrix(rnorm(500)/2,nrow=100),3)
set.seed(5378);SPC19<-3.3*round(SPC2+ matrix(rnorm(500)/1.5,nrow=100),3)
#####

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