NFL RF PREDICTIONS

library(readxl)  
WEEKLY\_TEAM\_PERFORMANCE <- read\_excel("C:/Users/ericr/Desktop/NFL STATISTICS/NFL PROJECT DATA/T test data/WEEKLY TEAM PERFORMANCE.xlsx")  
  
  
WEEKLY\_TEAM\_PERFORMANCE[4:34] <- lapply(WEEKLY\_TEAM\_PERFORMANCE[4:34], as.numeric)

## Warning in lapply(WEEKLY\_TEAM\_PERFORMANCE[4:34], as.numeric): NAs introduced by  
## coercion

WEEKLY\_TEAM\_PERFORMANCE$TO[is.na(WEEKLY\_TEAM\_PERFORMANCE$TO)] = 0  
  
WEEKLY\_TEAM\_PERFORMANCE$DTO[is.na(WEEKLY\_TEAM\_PERFORMANCE$DTO)] = 0  
  
WEEKLY\_TEAM\_PERFORMANCE<- na.omit(WEEKLY\_TEAM\_PERFORMANCE)  
  
  
IWTP <- read\_excel("C:/Users/ericr/Desktop/NFL STATISTICS/NFL PROJECT DATA/T test data/IWTP.xlsx")  
  
  
IWTP[3:33] <- lapply(IWTP[3:33], as.numeric)  
IWTP[35:50] <- lapply(IWTP[35:50], as.numeric)

## Warning in lapply(IWTP[35:50], as.numeric): NAs introduced by coercion

IWTP$TO[is.na(IWTP$TO)] = 0  
  
IWTP$DTO[is.na(IWTP$DTO)] = 0  
  
IWTP<- na.omit(IWTP)

# prediction models  
  
Rams\_SV1 <- data.frame(TT = 2.7875, CAY= 5.8608,AGG = 6.6085, AYTS = -.8908, COMP = 63.56, Week = 17, TLOS = 2.57, EFF=4.65,EM=32.01,CUSH=5.47, SEP=1.95, TAY=9.79, CTCH=65.50,YACR=5.95,AVG=4.89)  
  
ARI\_SV1 <- data.frame(TT =2.22 , CAY=4.52 ,AGG =11.057 , AYTS =-4.01 , COMP =65 , Week = 17, TLOS =2.57 , EFF=3.89,EM=18.6993,CUSH=5.62, SEP=1.9688, TAY=7.475, CTCH=67.86,YACR=4.75,AVG=4.73)  
  
  
RAMS\_SV2 <- data.frame(TT = 2.7875 , CAY= 5.925 ,AGG = 11.575 , AYTS =-1.21 , COMP =61.95 , Week = 17, TLOS =2.94 , EFF=4.66,EM=32.76,CUSH=6.35, SEP=3.28, TAY=8.9, CTCH=65.3,YACR=5.69,AVG=3.91)  
  
  
ARI\_SV2 <- data.frame(TT = 2.683, CAY=4.9 ,AGG =13.825 , AYTS =-2.46 , COMP =64.61 , Week = 17, TLOS =2.94 , EFF=4.02,EM=18.48,CUSH=6.01, SEP=3.25, TAY=8.57, CTCH=67.45,YACR=4.714,AVG=4.53)  
  
  
  
SC\_Rams\_SV1 <- data.frame(TT = 2.7875, CAY= 5.8608,AGG = 6.6085, AYTS = -.8908, COMP = 63.56, Week = 17, TLOS = 2.57, EFF=4.65,EM=32.01,CUSH=5.47, SEP=1.95, TAY=9.79, CTCH=65.50,YACR=5.95,AVG=4.89)  
  
SC\_ARI\_SV1 <- data.frame(TT =2.22 , CAY=4.52 ,AGG =11.057 , AYTS =-4.01 , COMP =65 , Week = 17, TLOS =2.57 , EFF=3.89,EM=18.6993,CUSH=5.62, SEP=1.9688, TAY=7.475, CTCH=67.86,YACR=4.75,AVG=4.73)  
  
  
SC\_RAMS\_SV2 <- data.frame(TT = 2.7875 , CAY= 5.925 ,AGG = 11.575 , AYTS =-1.21 , COMP =61.95 , Week = 17, TLOS =2.94 , EFF=4.66,EM=32.76,CUSH=6.35, SEP=3.28, TAY=8.9, CTCH=65.3,YACR=5.69,AVG=3.91)  
  
  
SC\_ARI\_SV2 <- data.frame(TT = 2.683, CAY=4.9 ,AGG =13.825 , AYTS =-2.46 , COMP =64.61 , Week = 17, TLOS =2.94 , EFF=4.02,EM=18.48,CUSH=6.01, SEP=3.25, TAY=8.57, CTCH=67.45,YACR=4.714,AVG=4.53)  
  
  
#ARI\_SV1 <- data.frame(TT = , CAY= ,AGG = , AYTS = , COMP = , Week = 17, TLOS = , EFF=,ED=,CUSH=, SEP=, TAY=, CTCH=,YACR=,AVG=)

library(caTools)  
  
#TT  
sample\_WP\_TT <- sample.split(WEEKLY\_TEAM\_PERFORMANCE$TT,SplitRatio = 0.9)  
train\_WP\_TT <- subset(WEEKLY\_TEAM\_PERFORMANCE,sample\_WP\_TT == TRUE)  
testWPTT <- subset(WEEKLY\_TEAM\_PERFORMANCE, sample\_WP\_TT == FALSE)  
  
  
#outcome  
sample\_WP\_outcome <- sample.split(WEEKLY\_TEAM\_PERFORMANCE$outcome,SplitRatio = 0.9)  
train\_WP\_outcome <- subset(WEEKLY\_TEAM\_PERFORMANCE,sample\_WP\_outcome == TRUE)  
testWPoutcome <- subset(WEEKLY\_TEAM\_PERFORMANCE, sample\_WP\_outcome == FALSE)  
  
  
#OPPS  
sample\_WP\_OPPS <- sample.split(WEEKLY\_TEAM\_PERFORMANCE$OPPS,SplitRatio = 0.9)  
train\_WP\_OPPS <- subset(WEEKLY\_TEAM\_PERFORMANCE,sample\_WP\_OPPS == TRUE)  
testWPOPPS <- subset(WEEKLY\_TEAM\_PERFORMANCE, sample\_WP\_OPPS == FALSE)  
  
#TEAMS  
sample\_WP\_TEAMS <- sample.split(WEEKLY\_TEAM\_PERFORMANCE$TEAMS,SplitRatio = 0.9)  
train\_WP\_TEAMS <- subset(WEEKLY\_TEAM\_PERFORMANCE,sample\_WP\_TEAMS == TRUE)  
testWPTEAMS <- subset(WEEKLY\_TEAM\_PERFORMANCE, sample\_WP\_TEAMS == FALSE)  
  
#FD  
sample\_WP\_FD <- sample.split(WEEKLY\_TEAM\_PERFORMANCE$FD,SplitRatio = 0.9)  
train\_WP\_FD <- subset(WEEKLY\_TEAM\_PERFORMANCE,sample\_WP\_FD == TRUE)  
testWPFD <- subset(WEEKLY\_TEAM\_PERFORMANCE, sample\_WP\_FD == FALSE)  
  
#PY  
sample\_WP\_PY <- sample.split(WEEKLY\_TEAM\_PERFORMANCE$PY,SplitRatio = 0.9)  
train\_WP\_PY <- subset(WEEKLY\_TEAM\_PERFORMANCE,sample\_WP\_PY == TRUE)  
testWPPY <- subset(WEEKLY\_TEAM\_PERFORMANCE, sample\_WP\_PY == FALSE)  
  
#RY  
sample\_WP\_RY <- sample.split(WEEKLY\_TEAM\_PERFORMANCE$RY,SplitRatio = 0.9)  
train\_WP\_RY <- subset(WEEKLY\_TEAM\_PERFORMANCE,sample\_WP\_RY == TRUE)  
testWPRY <- subset(WEEKLY\_TEAM\_PERFORMANCE, sample\_WP\_RY == FALSE)  
  
#TO  
sample\_WP\_TO <- sample.split(WEEKLY\_TEAM\_PERFORMANCE$TO,SplitRatio = 0.9)  
train\_WP\_TO <- subset(WEEKLY\_TEAM\_PERFORMANCE,sample\_WP\_TO == TRUE)  
testWPTO <- subset(WEEKLY\_TEAM\_PERFORMANCE, sample\_WP\_TO == FALSE)  
  
#DFD  
sample\_WP\_DFD <- sample.split(WEEKLY\_TEAM\_PERFORMANCE$DFD,SplitRatio = 0.9)  
train\_WP\_DFD <- subset(WEEKLY\_TEAM\_PERFORMANCE,sample\_WP\_DFD == TRUE)  
testWPDFD <- subset(WEEKLY\_TEAM\_PERFORMANCE, sample\_WP\_DFD == FALSE)  
  
#DPY  
sample\_WP\_DPY <- sample.split(WEEKLY\_TEAM\_PERFORMANCE$DPY,SplitRatio = 0.9)  
train\_WP\_DPY <- subset(WEEKLY\_TEAM\_PERFORMANCE,sample\_WP\_DPY == TRUE)  
testWPDPY <- subset(WEEKLY\_TEAM\_PERFORMANCE, sample\_WP\_DPY == FALSE)  
  
#DRY  
sample\_WP\_DRY <- sample.split(WEEKLY\_TEAM\_PERFORMANCE$DRY,SplitRatio = 0.9)  
train\_WP\_DRY <- subset(WEEKLY\_TEAM\_PERFORMANCE,sample\_WP\_DRY == TRUE)  
testWPDRY <- subset(WEEKLY\_TEAM\_PERFORMANCE, sample\_WP\_DRY == FALSE)  
  
#DTO  
sample\_WP\_DTO <- sample.split(WEEKLY\_TEAM\_PERFORMANCE$DTO,SplitRatio = 0.9)  
train\_WP\_DTO <- subset(WEEKLY\_TEAM\_PERFORMANCE,sample\_WP\_DTO == TRUE)  
testWPDTO <- subset(WEEKLY\_TEAM\_PERFORMANCE, sample\_WP\_DTO == FALSE)  
  
#CAY  
sample\_WP\_CAY <- sample.split(WEEKLY\_TEAM\_PERFORMANCE$CAY,SplitRatio = 0.9)  
train\_WP\_CAY <- subset(WEEKLY\_TEAM\_PERFORMANCE,sample\_WP\_CAY == TRUE)  
testWPCAY <- subset(WEEKLY\_TEAM\_PERFORMANCE, sample\_WP\_CAY == FALSE)  
  
#AGG  
sample\_WP\_AGG <- sample.split(WEEKLY\_TEAM\_PERFORMANCE$AGG,SplitRatio = 0.9)  
train\_WP\_AGG <- subset(WEEKLY\_TEAM\_PERFORMANCE,sample\_WP\_AGG == TRUE)  
testWPAGG <- subset(WEEKLY\_TEAM\_PERFORMANCE, sample\_WP\_AGG == FALSE)  
  
#LCAD  
sample\_WP\_LCAD <- sample.split(WEEKLY\_TEAM\_PERFORMANCE$LCAD,SplitRatio = 0.9)  
train\_WP\_LCAD <- subset(WEEKLY\_TEAM\_PERFORMANCE,sample\_WP\_LCAD == TRUE)  
testWPLCAD <- subset(WEEKLY\_TEAM\_PERFORMANCE, sample\_WP\_LCAD == FALSE)  
  
#AYTS  
sample\_WP\_AYTS <- sample.split(WEEKLY\_TEAM\_PERFORMANCE$AYTS,SplitRatio = 0.9)  
train\_WP\_AYTS <- subset(WEEKLY\_TEAM\_PERFORMANCE,sample\_WP\_AYTS == TRUE)  
testWPAYTS <- subset(WEEKLY\_TEAM\_PERFORMANCE, sample\_WP\_AYTS == FALSE)  
  
#ATT  
sample\_WP\_ATT <- sample.split(WEEKLY\_TEAM\_PERFORMANCE$ATT,SplitRatio = 0.9)  
train\_WP\_ATT <- subset(WEEKLY\_TEAM\_PERFORMANCE,sample\_WP\_ATT == TRUE)  
testWPATT <- subset(WEEKLY\_TEAM\_PERFORMANCE, sample\_WP\_ATT == FALSE)  
  
#TD  
sample\_WP\_TD <- sample.split(WEEKLY\_TEAM\_PERFORMANCE$TD,SplitRatio = 0.9)  
train\_WP\_TD <- subset(WEEKLY\_TEAM\_PERFORMANCE,sample\_WP\_TD == TRUE)  
testWPTD <- subset(WEEKLY\_TEAM\_PERFORMANCE, sample\_WP\_TD == FALSE)  
  
#INT  
sample\_WP\_INT <- sample.split(WEEKLY\_TEAM\_PERFORMANCE$INT,SplitRatio = 0.9)  
train\_WP\_INT <- subset(WEEKLY\_TEAM\_PERFORMANCE,sample\_WP\_INT == TRUE)  
testWPINT <- subset(WEEKLY\_TEAM\_PERFORMANCE, sample\_WP\_INT == FALSE)  
  
#COMP  
sample\_WP\_COMP <- sample.split(WEEKLY\_TEAM\_PERFORMANCE$COMP,SplitRatio = 0.9)  
train\_WP\_COMP <- subset(WEEKLY\_TEAM\_PERFORMANCE,sample\_WP\_COMP == TRUE)  
testWPCOMP <- subset(WEEKLY\_TEAM\_PERFORMANCE, sample\_WP\_COMP == FALSE)  
  
#RUSHATT  
sample\_WP\_RUSHATT <- sample.split(WEEKLY\_TEAM\_PERFORMANCE$RUSHATT,SplitRatio = 0.9)  
train\_WP\_RUSHATT <- subset(WEEKLY\_TEAM\_PERFORMANCE,sample\_WP\_RUSHATT == TRUE)  
testWPRUSHATT <- subset(WEEKLY\_TEAM\_PERFORMANCE, sample\_WP\_RUSHATT == FALSE)  
  
#RUSHTD  
sample\_WP\_RUSHTD <- sample.split(WEEKLY\_TEAM\_PERFORMANCE$RUSHTD,SplitRatio = 0.9)  
train\_WP\_RUSHTD <- subset(WEEKLY\_TEAM\_PERFORMANCE,sample\_WP\_RUSHTD == TRUE)  
testWPRUSHTD <- subset(WEEKLY\_TEAM\_PERFORMANCE, sample\_WP\_RUSHTD == FALSE)  
  
#EFF  
sample\_WP\_EFF <- sample.split(WEEKLY\_TEAM\_PERFORMANCE$EFF,SplitRatio = 0.9)  
train\_WP\_EFF <- subset(WEEKLY\_TEAM\_PERFORMANCE,sample\_WP\_EFF == TRUE)  
testWPEFF <- subset(WEEKLY\_TEAM\_PERFORMANCE, sample\_WP\_EFF == FALSE)  
  
#EM  
sample\_WP\_EM <- sample.split(WEEKLY\_TEAM\_PERFORMANCE$EM,SplitRatio = 0.9)  
train\_WP\_EM <- subset(WEEKLY\_TEAM\_PERFORMANCE,sample\_WP\_EM == TRUE)  
testWPEM <- subset(WEEKLY\_TEAM\_PERFORMANCE, sample\_WP\_EM == FALSE)  
  
#TLOS  
sample\_WP\_TLOS <- sample.split(WEEKLY\_TEAM\_PERFORMANCE$TLOS,SplitRatio = 0.9)  
train\_WP\_TLOS <- subset(WEEKLY\_TEAM\_PERFORMANCE,sample\_WP\_TLOS == TRUE)  
testWPTLOS <- subset(WEEKLY\_TEAM\_PERFORMANCE, sample\_WP\_TLOS == FALSE)  
  
#AVG  
sample\_WP\_AVG <- sample.split(WEEKLY\_TEAM\_PERFORMANCE$AVG,SplitRatio = 0.9)  
train\_WP\_AVG <- subset(WEEKLY\_TEAM\_PERFORMANCE,sample\_WP\_AVG == TRUE)  
testWPAVG <- subset(WEEKLY\_TEAM\_PERFORMANCE, sample\_WP\_AVG == FALSE)  
  
#CUSH  
sample\_WP\_CUSH <- sample.split(WEEKLY\_TEAM\_PERFORMANCE$CUSH,SplitRatio = 0.9)  
train\_WP\_CUSH <- subset(WEEKLY\_TEAM\_PERFORMANCE,sample\_WP\_CUSH == TRUE)  
testWPCUSH <- subset(WEEKLY\_TEAM\_PERFORMANCE, sample\_WP\_CUSH == FALSE)  
  
#SEP  
sample\_WP\_SEP <- sample.split(WEEKLY\_TEAM\_PERFORMANCE$SEP,SplitRatio = 0.9)  
train\_WP\_SEP <- subset(WEEKLY\_TEAM\_PERFORMANCE,sample\_WP\_SEP == TRUE)  
testWPSEP <- subset(WEEKLY\_TEAM\_PERFORMANCE, sample\_WP\_SEP == FALSE)  
  
#TAY  
sample\_WP\_TAY <- sample.split(WEEKLY\_TEAM\_PERFORMANCE$TAY,SplitRatio = 0.9)  
train\_WP\_TAY <- subset(WEEKLY\_TEAM\_PERFORMANCE,sample\_WP\_TAY == TRUE)  
testWPTAY <- subset(WEEKLY\_TEAM\_PERFORMANCE, sample\_WP\_TAY == FALSE)  
  
#CTCH  
sample\_WP\_CTCH <- sample.split(WEEKLY\_TEAM\_PERFORMANCE$CTCH,SplitRatio = 0.9)  
train\_WP\_CTCH <- subset(WEEKLY\_TEAM\_PERFORMANCE,sample\_WP\_CTCH == TRUE)  
testWPCTCH <- subset(WEEKLY\_TEAM\_PERFORMANCE, sample\_WP\_CTCH == FALSE)  
  
#YACR  
sample\_WP\_YACR <- sample.split(WEEKLY\_TEAM\_PERFORMANCE$YACR,SplitRatio = 0.9)  
train\_WP\_YACR <- subset(WEEKLY\_TEAM\_PERFORMANCE,sample\_WP\_YACR == TRUE)  
testWPYACR <- subset(WEEKLY\_TEAM\_PERFORMANCE, sample\_WP\_YACR == FALSE)  
  
  
  
  
  
  
  
library(randomForest)

## randomForest 4.6-14

## Type rfNews() to see new features/changes/bug fixes.

#Adjust random forest models   
library(randomForest)  
ARFM1<-randomForest(outcome~TT+CAY+AGG+AYTS+COMP+Week+EFF+EM+TLOS+AVG+CUSH+SEP+TAY+CTCH+YACR,data=train\_WP\_outcome, importance=TRUE)

## Warning in randomForest.default(m, y, ...): The response has five or fewer  
## unique values. Are you sure you want to do regression?

ARFM2<-randomForest(TEAMS~TT+CAY+AGG+AYTS+COMP+Week+EFF+EM+TLOS+AVG+CUSH+SEP+TAY+CTCH+YACR,data=train\_WP\_TEAMS, importance=TRUE)  
ARFM3<-randomForest(OPPS~TT+CAY+AGG+AYTS+COMP+Week+EFF+EM+TLOS+AVG+CUSH+SEP+TAY+CTCH+YACR,data=train\_WP\_OPPS, importance=TRUE)  
ARFM4<-randomForest(FD~TT+CAY+AGG+AYTS+COMP+Week+EFF+EM+TLOS+AVG+CUSH+SEP+TAY+CTCH+YACR,data=train\_WP\_FD, importance=TRUE)  
ARFM5<-randomForest(PY~TT+CAY+AGG+AYTS+COMP+Week+EFF+EM+TLOS+AVG+CUSH+SEP+TAY+CTCH+YACR,data=train\_WP\_PY, importance=TRUE)  
ARFM6<-randomForest(RY~TT+CAY+AGG+AYTS+COMP+Week+EFF+EM+TLOS+AVG+CUSH+SEP+TAY+CTCH+YACR,data=train\_WP\_RY, importance=TRUE)  
ARFM7<-randomForest(TO~TT+CAY+AGG+AYTS+COMP+Week+EFF+EM+TLOS+AVG+CUSH+SEP+TAY+CTCH+YACR,data=train\_WP\_TO, importance=TRUE)  
ARFM8<-randomForest(DFD~TT+CAY+AGG+AYTS+COMP+Week+EFF+EM+TLOS+AVG+CUSH+SEP+TAY+CTCH+YACR,data=train\_WP\_DFD, importance=TRUE)  
ARFM9<-randomForest(DPY~TT+CAY+AGG+AYTS+COMP+Week+EFF+EM+TLOS+AVG+CUSH+SEP+TAY+CTCH+YACR,data=train\_WP\_DPY, importance=TRUE)  
ARFM10<-randomForest(DRY~TT+CAY+AGG+AYTS+COMP+Week+EFF+EM+TLOS+AVG+CUSH+SEP+TAY+CTCH+YACR,data=train\_WP\_DRY, importance=TRUE)  
ARFM11<-randomForest(DTO~TT+CAY+AGG+AYTS+COMP+Week+EFF+EM+TLOS+AVG+CUSH+SEP+TAY+CTCH+YACR,data=train\_WP\_DTO, importance=TRUE)  
ARFM12<-randomForest(TT~CAY+AGG+AYTS+COMP+Week+EFF+EM+TLOS+AVG+CUSH+SEP+TAY+CTCH+YACR,data=train\_WP\_TT, importance=TRUE)  
ARFM13<-randomForest(CAY~TT+AGG+AYTS+COMP+Week+EFF+EM+TLOS+AVG+CUSH+SEP+TAY+CTCH+YACR,data=train\_WP\_CAY, importance=TRUE)  
ARFM14<-randomForest(AGG~TT+CAY+AYTS+COMP+Week+EFF+EM+TLOS+AVG+CUSH+SEP+TAY+CTCH+YACR,data=train\_WP\_AGG, importance=TRUE)  
ARFM15<-randomForest(LCAD~TT+CAY+AGG+AYTS+COMP+Week+EFF+EM+TLOS+AVG+CUSH+SEP+TAY+CTCH+YACR,data=train\_WP\_LCAD, importance=TRUE)  
ARFM16<-randomForest(AYTS~TT+CAY+AGG+COMP+Week+EFF+EM+TLOS+AVG+CUSH+SEP+TAY+CTCH+YACR,data=train\_WP\_AYTS, importance=TRUE)  
ARFM17<-randomForest(ATT~TT+CAY+AGG+AYTS+COMP+Week+EFF+EM+TLOS+AVG+CUSH+SEP+TAY+CTCH+YACR,data=train\_WP\_ATT, importance=TRUE)  
ARFM18<-randomForest(TD~TT+CAY+AGG+AYTS+COMP+Week+EFF+EM+TLOS+AVG+CUSH+SEP+TAY+CTCH+YACR,data=train\_WP\_TD, importance=TRUE)  
ARFM19<-randomForest(INT~TT+CAY+AGG+AYTS+COMP+Week+EFF+EM+TLOS+AVG+CUSH+SEP+TAY+CTCH+YACR,data=train\_WP\_INT, importance=TRUE)  
ARFM20<-randomForest(COMP~TT+CAY+AGG+AYTS+Week+EFF+EM+TLOS+AVG+CUSH+SEP+TAY+CTCH+YACR,data=train\_WP\_COMP, importance=TRUE)  
ARFM21<-randomForest(RUSHATT~TT+CAY+AGG+AYTS+COMP+Week+EFF+EM+TLOS+AVG+CUSH+SEP+TAY+CTCH+YACR,data=train\_WP\_RUSHATT, importance=TRUE)  
ARFM22<-randomForest(RUSHTD~TT+CAY+AGG+AYTS+COMP+Week+EFF+EM+TLOS+AVG+CUSH+SEP+TAY+CTCH+YACR,data=train\_WP\_RUSHTD, importance=TRUE)

## Warning in randomForest.default(m, y, ...): The response has five or fewer  
## unique values. Are you sure you want to do regression?

ARFM23<-randomForest(EFF~TT+CAY+AGG+AYTS+COMP+Week+EM+TLOS+AVG+CUSH+SEP+TAY+CTCH+YACR,data=train\_WP\_EFF, importance=TRUE)  
ARFM24<-randomForest(EM~TT+CAY+AGG+AYTS+COMP+Week+EFF+TLOS+AVG+CUSH+SEP+TAY+CTCH+YACR,data=train\_WP\_EM, importance=TRUE)  
ARFM25<-randomForest(TLOS~TT+CAY+AGG+AYTS+COMP+Week+EFF+EM+AVG+CUSH+SEP+TAY+CTCH+YACR,data=train\_WP\_TLOS, importance=TRUE)  
ARFM26<-randomForest(AVG~TT+CAY+AGG+AYTS+COMP+Week+EFF+EM+TLOS+CUSH+SEP+TAY+CTCH+YACR,data=train\_WP\_AVG, importance=TRUE)  
ARFM27<-randomForest(CUSH~TT+CAY+AGG+AYTS+COMP+Week+EFF+EM+TLOS+AVG+SEP+TAY+CTCH+YACR,data=train\_WP\_CUSH, importance=TRUE)  
ARFM28<-randomForest(SEP~TT+CAY+AGG+AYTS+COMP+Week+EFF+EM+TLOS+AVG+CUSH+TAY+CTCH+YACR,data=train\_WP\_SEP, importance=TRUE)  
ARFM29<-randomForest(TAY~TT+CAY+AGG+AYTS+COMP+Week+EFF+EM+TLOS+AVG+CUSH+SEP+CTCH+YACR,data=train\_WP\_TAY, importance=TRUE)  
ARFM30<-randomForest(CTCH~TT+CAY+AGG+AYTS+COMP+Week+EFF+EM+TLOS+AVG+CUSH+SEP+TAY+YACR,data=train\_WP\_CTCH, importance=TRUE)  
ARFM31<-randomForest(YACR~TT+CAY+AGG+AYTS+COMP+Week+EFF+EM+TLOS+AVG+CUSH+SEP+TAY+CTCH,data=train\_WP\_YACR, importance=TRUE)

#TT  
sample\_WP\_TT <- sample.split(IWTP$TT,SplitRatio = 0.9)  
train\_WP\_TT <- subset(IWTP,sample\_WP\_TT == TRUE)  
testWPTT <- subset(IWTP, sample\_WP\_TT == FALSE)  
  
  
#outcome  
sample\_WP\_outcome <- sample.split(IWTP$outcome,SplitRatio = 0.9)  
train\_WP\_outcome <- subset(IWTP,sample\_WP\_outcome == TRUE)  
testWPoutcome <- subset(IWTP, sample\_WP\_outcome == FALSE)  
  
  
#OPPS  
sample\_WP\_OPPS <- sample.split(IWTP$OPPS,SplitRatio = 0.9)  
train\_WP\_OPPS <- subset(IWTP,sample\_WP\_OPPS == TRUE)  
testWPOPPS <- subset(IWTP, sample\_WP\_OPPS == FALSE)  
  
#TEAMS  
sample\_WP\_TEAMS <- sample.split(IWTP$TEAMS,SplitRatio = 0.9)  
train\_WP\_TEAMS <- subset(IWTP,sample\_WP\_TEAMS == TRUE)  
testWPTEAMS <- subset(IWTP, sample\_WP\_TEAMS == FALSE)  
  
#FD  
sample\_WP\_FD <- sample.split(IWTP$FD,SplitRatio = 0.9)  
train\_WP\_FD <- subset(IWTP,sample\_WP\_FD == TRUE)  
testWPFD <- subset(IWTP, sample\_WP\_FD == FALSE)  
  
#PY  
sample\_WP\_PY <- sample.split(IWTP$PY,SplitRatio = 0.9)  
train\_WP\_PY <- subset(IWTP,sample\_WP\_PY == TRUE)  
testWPPY <- subset(IWTP, sample\_WP\_PY == FALSE)  
  
#RY  
sample\_WP\_RY <- sample.split(IWTP$RY,SplitRatio = 0.9)  
train\_WP\_RY <- subset(IWTP,sample\_WP\_RY == TRUE)  
testWPRY <- subset(IWTP, sample\_WP\_RY == FALSE)  
  
#TO  
sample\_WP\_TO <- sample.split(IWTP$TO,SplitRatio = 0.9)  
train\_WP\_TO <- subset(IWTP,sample\_WP\_TO == TRUE)  
testWPTO <- subset(IWTP, sample\_WP\_TO == FALSE)  
  
#DFD  
sample\_WP\_DFD <- sample.split(IWTP$DFD,SplitRatio = 0.9)  
train\_WP\_DFD <- subset(IWTP,sample\_WP\_DFD == TRUE)  
testWPDFD <- subset(IWTP, sample\_WP\_DFD == FALSE)  
  
#DPY  
sample\_WP\_DPY <- sample.split(IWTP$DPY,SplitRatio = 0.9)  
train\_WP\_DPY <- subset(IWTP,sample\_WP\_DPY == TRUE)  
testWPDPY <- subset(IWTP, sample\_WP\_DPY == FALSE)  
  
#DRY  
sample\_WP\_DRY <- sample.split(IWTP$DRY,SplitRatio = 0.9)  
train\_WP\_DRY <- subset(IWTP,sample\_WP\_DRY == TRUE)  
testWPDRY <- subset(IWTP, sample\_WP\_DRY == FALSE)  
  
#DTO  
sample\_WP\_DTO <- sample.split(IWTP$DTO,SplitRatio = 0.9)  
train\_WP\_DTO <- subset(IWTP,sample\_WP\_DTO == TRUE)  
testWPDTO <- subset(IWTP, sample\_WP\_DTO == FALSE)  
  
#CAY  
sample\_WP\_CAY <- sample.split(IWTP$CAY,SplitRatio = 0.9)  
train\_WP\_CAY <- subset(IWTP,sample\_WP\_CAY == TRUE)  
testWPCAY <- subset(IWTP, sample\_WP\_CAY == FALSE)  
  
#AGG  
sample\_WP\_AGG <- sample.split(IWTP$AGG,SplitRatio = 0.9)  
train\_WP\_AGG <- subset(IWTP,sample\_WP\_AGG == TRUE)  
testWPAGG <- subset(IWTP, sample\_WP\_AGG == FALSE)  
  
#LCAD  
sample\_WP\_LCAD <- sample.split(IWTP$LCAD,SplitRatio = 0.9)  
train\_WP\_LCAD <- subset(IWTP,sample\_WP\_LCAD == TRUE)  
testWPLCAD <- subset(IWTP, sample\_WP\_LCAD == FALSE)  
  
#AYTS  
sample\_WP\_AYTS <- sample.split(IWTP$AYTS,SplitRatio = 0.9)  
train\_WP\_AYTS <- subset(IWTP,sample\_WP\_AYTS == TRUE)  
testWPAYTS <- subset(IWTP, sample\_WP\_AYTS == FALSE)  
  
#ATT  
sample\_WP\_ATT <- sample.split(IWTP$ATT,SplitRatio = 0.9)  
train\_WP\_ATT <- subset(IWTP,sample\_WP\_ATT == TRUE)  
testWPATT <- subset(IWTP, sample\_WP\_ATT == FALSE)  
  
#TD  
sample\_WP\_TD <- sample.split(IWTP$TD,SplitRatio = 0.9)  
train\_WP\_TD <- subset(IWTP,sample\_WP\_TD == TRUE)  
testWPTD <- subset(IWTP, sample\_WP\_TD == FALSE)  
  
#INT  
sample\_WP\_INT <- sample.split(IWTP$INT,SplitRatio = 0.9)  
train\_WP\_INT <- subset(IWTP,sample\_WP\_INT == TRUE)  
testWPINT <- subset(IWTP, sample\_WP\_INT == FALSE)  
  
#COMP  
sample\_WP\_COMP <- sample.split(IWTP$COMP,SplitRatio = 0.9)  
train\_WP\_COMP <- subset(IWTP,sample\_WP\_COMP == TRUE)  
testWPCOMP <- subset(IWTP, sample\_WP\_COMP == FALSE)  
  
#RUSHATT  
sample\_WP\_RUSHATT <- sample.split(IWTP$RUSHATT,SplitRatio = 0.9)  
train\_WP\_RUSHATT <- subset(IWTP,sample\_WP\_RUSHATT == TRUE)  
testWPRUSHATT <- subset(IWTP, sample\_WP\_RUSHATT == FALSE)  
  
#RUSHTD  
sample\_WP\_RUSHTD <- sample.split(IWTP$RUSHTD,SplitRatio = 0.9)  
train\_WP\_RUSHTD <- subset(IWTP,sample\_WP\_RUSHTD == TRUE)  
testWPRUSHTD <- subset(IWTP, sample\_WP\_RUSHTD == FALSE)  
  
#EFF  
sample\_WP\_EFF <- sample.split(IWTP$EFF,SplitRatio = 0.9)  
train\_WP\_EFF <- subset(IWTP,sample\_WP\_EFF == TRUE)  
testWPEFF <- subset(IWTP, sample\_WP\_EFF == FALSE)  
  
#EM  
sample\_WP\_EM <- sample.split(IWTP$EM,SplitRatio = 0.9)  
train\_WP\_EM <- subset(IWTP,sample\_WP\_EM == TRUE)  
testWPEM <- subset(IWTP, sample\_WP\_EM == FALSE)  
  
#TLOS  
sample\_WP\_TLOS <- sample.split(IWTP$TLOS,SplitRatio = 0.9)  
train\_WP\_TLOS <- subset(IWTP,sample\_WP\_TLOS == TRUE)  
testWPTLOS <- subset(IWTP, sample\_WP\_TLOS == FALSE)  
  
#AVG  
sample\_WP\_AVG <- sample.split(IWTP$AVG,SplitRatio = 0.9)  
train\_WP\_AVG <- subset(IWTP,sample\_WP\_AVG == TRUE)  
testWPAVG <- subset(IWTP, sample\_WP\_AVG == FALSE)  
  
#CUSH  
sample\_WP\_CUSH <- sample.split(IWTP$CUSH,SplitRatio = 0.9)  
train\_WP\_CUSH <- subset(IWTP,sample\_WP\_CUSH == TRUE)  
testWPCUSH <- subset(IWTP, sample\_WP\_CUSH == FALSE)  
  
#SEP  
sample\_WP\_SEP <- sample.split(IWTP$SEP,SplitRatio = 0.9)  
train\_WP\_SEP <- subset(IWTP,sample\_WP\_SEP == TRUE)  
testWPSEP <- subset(IWTP, sample\_WP\_SEP == FALSE)  
  
#TAY  
sample\_WP\_TAY <- sample.split(IWTP$TAY,SplitRatio = 0.9)  
train\_WP\_TAY <- subset(IWTP,sample\_WP\_TAY == TRUE)  
testWPTAY <- subset(IWTP, sample\_WP\_TAY == FALSE)  
  
#CTCH  
sample\_WP\_CTCH <- sample.split(IWTP$CTCH,SplitRatio = 0.9)  
train\_WP\_CTCH <- subset(IWTP,sample\_WP\_CTCH == TRUE)  
testWPCTCH <- subset(IWTP, sample\_WP\_CTCH == FALSE)  
  
#YACR  
sample\_WP\_YACR <- sample.split(IWTP$YACR,SplitRatio = 0.9)  
train\_WP\_YACR <- subset(IWTP,sample\_WP\_YACR == TRUE)  
testWPYACR <- subset(IWTP, sample\_WP\_YACR == FALSE)  
  
  
  
# new section  
  
#TT\_OPP  
sample\_WP\_TT\_OPP <- sample.split(IWTP$TT\_OPP,SplitRatio = 0.9)  
train\_WP\_TT\_OPP <- subset(IWTP,sample\_WP\_TT\_OPP == TRUE)  
testWPTT\_OPP <- subset(IWTP, sample\_WP\_TT\_OPP == FALSE)  
  
  
#CAY\_OPP  
sample\_WP\_CAY\_OPP <- sample.split(IWTP$CAY\_OPP,SplitRatio = 0.9)  
train\_WP\_CAY\_OPP <- subset(IWTP,sample\_WP\_CAY\_OPP == TRUE)  
testWPCAY\_OPP <- subset(IWTP, sample\_WP\_CAY\_OPP == FALSE)  
  
#AGG\_OPP  
sample\_WP\_AGG\_OPP <- sample.split(IWTP$AGG\_OPP,SplitRatio = 0.9)  
train\_WP\_AGG\_OPP <- subset(IWTP,sample\_WP\_AGG\_OPP == TRUE)  
testWPAGG\_OPP <- subset(IWTP, sample\_WP\_AGG\_OPP == FALSE)  
  
#LCAD\_OPP  
sample\_WP\_LCAD\_OPP <- sample.split(IWTP$LCAD\_OPP,SplitRatio = 0.9)  
train\_WP\_LCAD\_OPP <- subset(IWTP,sample\_WP\_LCAD\_OPP == TRUE)  
testWPLCAD\_OPP <- subset(IWTP, sample\_WP\_LCAD\_OPP == FALSE)  
  
#AYTS\_OPP  
sample\_WP\_AYTS\_OPP <- sample.split(IWTP$AYTS\_OPP,SplitRatio = 0.9)  
train\_WP\_AYTS\_OPP <- subset(IWTP,sample\_WP\_AYTS\_OPP == TRUE)  
testWPAYTS\_OPP <- subset(IWTP, sample\_WP\_AYTS\_OPP == FALSE)  
  
#ATT\_OPP  
sample\_WP\_ATT\_OPP <- sample.split(IWTP$ATT\_OPP,SplitRatio = 0.9)  
train\_WP\_ATT\_OPP <- subset(IWTP,sample\_WP\_ATT\_OPP == TRUE)  
testWPATT\_OPP <- subset(IWTP, sample\_WP\_ATT\_OPP == FALSE)  
  
#TD\_OPP  
sample\_WP\_TD\_OPP <- sample.split(IWTP$TD\_OPP,SplitRatio = 0.9)  
train\_WP\_TD\_OPP <- subset(IWTP,sample\_WP\_TD\_OPP == TRUE)  
testWPTD\_OPP <- subset(IWTP, sample\_WP\_TD\_OPP == FALSE)  
  
#INT\_OPP  
sample\_WP\_INT\_OPP <- sample.split(IWTP$INT\_OPP,SplitRatio = 0.9)  
train\_WP\_INT\_OPP <- subset(IWTP,sample\_WP\_INT\_OPP == TRUE)  
testWPINT\_OPP <- subset(IWTP, sample\_WP\_INT\_OPP == FALSE)  
  
#COMP\_OPP  
sample\_WP\_COMP\_OPP <- sample.split(IWTP$COMP\_OPP,SplitRatio = 0.9)  
train\_WP\_COMP\_OPP <- subset(IWTP,sample\_WP\_COMP\_OPP == TRUE)  
testWPCOMP\_OPP <- subset(IWTP, sample\_WP\_COMP\_OPP == FALSE)  
  
#RUSHATT\_OPP  
sample\_WP\_RUSHATT\_OPP <- sample.split(IWTP$RUSHATT\_OPP,SplitRatio = 0.9)  
train\_WP\_RUSHATT\_OPP <- subset(IWTP,sample\_WP\_RUSHATT\_OPP == TRUE)  
testWPRUSHATT\_OPP <- subset(IWTP, sample\_WP\_RUSHATT\_OPP == FALSE)  
  
#RUSHTD\_OPP  
sample\_WP\_RUSHTD\_OPP <- sample.split(IWTP$RUSHTD\_OPP,SplitRatio = 0.9)  
train\_WP\_RUSHTD\_OPP <- subset(IWTP,sample\_WP\_RUSHTD\_OPP == TRUE)  
testWPRUSHTD\_OPP <- subset(IWTP, sample\_WP\_RUSHTD\_OPP == FALSE)  
  
#EFF\_OPP  
sample\_WP\_EFF\_OPP <- sample.split(IWTP$EFF\_OPP,SplitRatio = 0.9)  
train\_WP\_EFF\_OPP <- subset(IWTP,sample\_WP\_EFF\_OPP == TRUE)  
testWPEFF\_OPP <- subset(IWTP, sample\_WP\_EFF\_OPP == FALSE)  
  
#EM\_OPP  
sample\_WP\_EM\_OPP <- sample.split(IWTP$EM\_OPP,SplitRatio = 0.9)  
train\_WP\_EM\_OPP <- subset(IWTP,sample\_WP\_EM\_OPP == TRUE)  
testWPEM\_OPP <- subset(IWTP, sample\_WP\_EM\_OPP == FALSE)  
  
#TLOS\_OPP  
sample\_WP\_TLOS\_OPP <- sample.split(IWTP$TLOS\_OPP,SplitRatio = 0.9)  
train\_WP\_TLOS\_OPP <- subset(IWTP,sample\_WP\_TLOS\_OPP == TRUE)  
testWPTLOS\_OPP <- subset(IWTP, sample\_WP\_TLOS\_OPP == FALSE)  
  
#AVG\_OPP  
sample\_WP\_AVG\_OPP <- sample.split(IWTP$AVG\_OPP,SplitRatio = 0.9)  
train\_WP\_AVG\_OPP <- subset(IWTP,sample\_WP\_AVG\_OPP == TRUE)  
testWPAVG\_OPP <- subset(IWTP, sample\_WP\_AVG\_OPP == FALSE)  
  
#CUSH\_OPP  
sample\_WP\_CUSH\_OPP <- sample.split(IWTP$CUSH\_OPP,SplitRatio = 0.9)  
train\_WP\_CUSH\_OPP <- subset(IWTP,sample\_WP\_CUSH\_OPP == TRUE)  
testWPCUSH\_OPP <- subset(IWTP, sample\_WP\_CUSH\_OPP == FALSE)  
  
#SEP\_OPP  
sample\_WP\_SEP\_OPP <- sample.split(IWTP$SEP\_OPP,SplitRatio = 0.9)  
train\_WP\_SEP\_OPP <- subset(IWTP,sample\_WP\_SEP\_OPP == TRUE)  
testWPSEP\_OPP <- subset(IWTP, sample\_WP\_SEP\_OPP == FALSE)  
  
#TAY\_OPP  
sample\_WP\_TAY\_OPP <- sample.split(IWTP$TAY\_OPP,SplitRatio = 0.9)  
train\_WP\_TAY\_OPP <- subset(IWTP,sample\_WP\_TAY\_OPP == TRUE)  
testWPTAY\_OPP <- subset(IWTP, sample\_WP\_TAY\_OPP == FALSE)  
  
#CTCH\_OPP  
sample\_WP\_CTCH\_OPP <- sample.split(IWTP$CTCH\_OPP,SplitRatio = 0.9)  
train\_WP\_CTCH\_OPP <- subset(IWTP,sample\_WP\_CTCH\_OPP == TRUE)  
testWPCTCH\_OPP <- subset(IWTP, sample\_WP\_CTCH\_OPP == FALSE)  
  
#YACR\_OPP  
sample\_WP\_YACR\_OPP <- sample.split(IWTP$YACR\_OPP,SplitRatio = 0.9)  
train\_WP\_YACR\_OPP <- subset(IWTP,sample\_WP\_YACR\_OPP == TRUE)  
testWPYACR\_OPP <- subset(IWTP, sample\_WP\_YACR\_OPP == FALSE)  
#IRF  
  
IRF1<-randomForest(outcome~COMP+EM+CTCH+AYTS\_OPP+COMP\_OPP+SEP\_OPP+CTCH\_OPP+YACR\_OPP,data=train\_WP\_outcome,importance=TRUE)

## Warning in randomForest.default(m, y, ...): The response has five or fewer  
## unique values. Are you sure you want to do regression?

IRF2<-randomForest(TEAMS~CAY+AYTS+COMP+EFF+AVG+SEP+TAY+CTCH+YACR+TT\_OPP+CAY\_OPP+AYTS\_OPP+EFF\_OPP+EM\_OPP+TLOS\_OPP+TAY\_OPP+CTCH\_OPP,data=train\_WP\_TEAMS,importance=TRUE)  
  
  
  
IRF3<-randomForest(OPPS~TT+AGG+EM+CAY\_OPP+AYTS\_OPP+EM\_OPP+CTCH\_OPP+YACR\_OPP,data=train\_WP\_OPPS,importance=TRUE)  
  
  
  
IRF4<-randomForest(FD~AGG+AYTS+COMP+EFF+AVG+SEP+TAY+CTCH+YACR+TT\_OPP+AYTS\_OPP+COMP\_OPP+EFF\_OPP+EM\_OPP+AVG\_OPP+CUSH\_OPP+SEP\_OPP+YACR\_OPP,data=train\_WP\_FD,importance=TRUE)  
  
  
IRF5<-randomForest(PY~COMP+EFF+TLOS+AVG+CUSH+SEP+TAY+CTCH+YACR+CAY\_OPP+AGG\_OPP+AYTS\_OPP+COMP\_OPP+EFF\_OPP+EM\_OPP+TLOS\_OPP+AVG\_OPP+CUSH\_OPP+SEP\_OPP+TAY\_OPP+YACR\_OPP,data=train\_WP\_PY,importance=TRUE)  
  
  
IRF6<-randomForest(RY~TT+CAY+AGG+AYTS+COMP+EFF+EM+TLOS+AVG+CUSH+SEP+TAY+CTCH+YACR+TT\_OPP+CAY\_OPP+AGG\_OPP+AYTS\_OPP+COMP\_OPP+EFF\_OPP+EM\_OPP+TLOS\_OPP+AVG\_OPP+CUSH\_OPP+SEP\_OPP+TAY\_OPP+CTCH\_OPP+YACR\_OPP,data=train\_WP\_RY,importance=TRUE)  
IRF7<-randomForest(TO~TT+CAY+AGG+AYTS+COMP+EFF+EM+TLOS+AVG+CUSH+SEP+TAY+CTCH+YACR+TT\_OPP+CAY\_OPP+AGG\_OPP+AYTS\_OPP+COMP\_OPP+EFF\_OPP+EM\_OPP+TLOS\_OPP+AVG\_OPP+CUSH\_OPP+SEP\_OPP+TAY\_OPP+CTCH\_OPP+YACR\_OPP,data=train\_WP\_TO,importance=TRUE)  
IRF8<-randomForest(DFD~TT+CAY+AGG+AYTS+COMP+EFF+EM+TLOS+AVG+CUSH+SEP+TAY+CTCH+YACR+TT\_OPP+CAY\_OPP+AGG\_OPP+AYTS\_OPP+COMP\_OPP+EFF\_OPP+EM\_OPP+TLOS\_OPP+AVG\_OPP+CUSH\_OPP+SEP\_OPP+TAY\_OPP+CTCH\_OPP+YACR\_OPP,data=train\_WP\_DFD,importance=TRUE)  
IRF9<-randomForest(DPY~TT+CAY+AGG+AYTS+COMP+EFF+EM+TLOS+AVG+CUSH+SEP+TAY+CTCH+YACR+TT\_OPP+CAY\_OPP+AGG\_OPP+AYTS\_OPP+COMP\_OPP+EFF\_OPP+EM\_OPP+TLOS\_OPP+AVG\_OPP+CUSH\_OPP+SEP\_OPP+TAY\_OPP+CTCH\_OPP+YACR\_OPP,data=train\_WP\_DPY,importance=TRUE)  
IRF10<-randomForest(DRY~TT+CAY+AGG+AYTS+COMP+EFF+EM+TLOS+AVG+CUSH+SEP+TAY+CTCH+YACR+TT\_OPP+CAY\_OPP+AGG\_OPP+AYTS\_OPP+COMP\_OPP+EFF\_OPP+EM\_OPP+TLOS\_OPP+AVG\_OPP+CUSH\_OPP+SEP\_OPP+TAY\_OPP+CTCH\_OPP+YACR\_OPP,data=train\_WP\_DRY,importance=TRUE)  
IRF11<-randomForest(DTO~TT+CAY+AGG+AYTS+COMP+EFF+EM+TLOS+AVG+CUSH+SEP+TAY+CTCH+YACR+TT\_OPP+CAY\_OPP+AGG\_OPP+AYTS\_OPP+COMP\_OPP+EFF\_OPP+EM\_OPP+TLOS\_OPP+AVG\_OPP+CUSH\_OPP+SEP\_OPP+TAY\_OPP+CTCH\_OPP+YACR\_OPP,data=train\_WP\_DTO,importance=TRUE)  
IRF12<-randomForest(ATT~TT+CAY+AGG+AYTS+COMP+EFF+EM+TLOS+AVG+CUSH+SEP+TAY+CTCH+YACR+TT\_OPP+CAY\_OPP+AGG\_OPP+AYTS\_OPP+COMP\_OPP+EFF\_OPP+EM\_OPP+TLOS\_OPP+AVG\_OPP+CUSH\_OPP+SEP\_OPP+TAY\_OPP+CTCH\_OPP+YACR\_OPP,data=train\_WP\_ATT,importance=TRUE)  
IRF13<-randomForest(TD~TT+CAY+AGG+AYTS+COMP+EFF+EM+TLOS+AVG+CUSH+SEP+TAY+CTCH+YACR+TT\_OPP+CAY\_OPP+AGG\_OPP+AYTS\_OPP+COMP\_OPP+EFF\_OPP+EM\_OPP+TLOS\_OPP+AVG\_OPP+CUSH\_OPP+SEP\_OPP+TAY\_OPP+CTCH\_OPP+YACR\_OPP,data=train\_WP\_TD,importance=TRUE)  
IRF14<-randomForest(INT~TT+CAY+AGG+AYTS+COMP+EFF+EM+TLOS+AVG+CUSH+SEP+TAY+CTCH+YACR+TT\_OPP+CAY\_OPP+AGG\_OPP+AYTS\_OPP+COMP\_OPP+EFF\_OPP+EM\_OPP+TLOS\_OPP+AVG\_OPP+CUSH\_OPP+SEP\_OPP+TAY\_OPP+CTCH\_OPP+YACR\_OPP,data=train\_WP\_INT,importance=TRUE)  
IRF15<-randomForest(RUSHATT~TT+CAY+AGG+AYTS+COMP+EFF+EM+TLOS+AVG+CUSH+SEP+TAY+CTCH+YACR+TT\_OPP+CAY\_OPP+AGG\_OPP+AYTS\_OPP+COMP\_OPP+EFF\_OPP+EM\_OPP+TLOS\_OPP+AVG\_OPP+CUSH\_OPP+SEP\_OPP+TAY\_OPP+CTCH\_OPP+YACR\_OPP,data=train\_WP\_RUSHATT,importance=TRUE)  
IRF16<-randomForest(RUSHTD~TT+CAY+AGG+AYTS+COMP+EFF+EM+TLOS+AVG+CUSH+SEP+TAY+CTCH+YACR+TT\_OPP+CAY\_OPP+AGG\_OPP+AYTS\_OPP+COMP\_OPP+EFF\_OPP+EM\_OPP+TLOS\_OPP+AVG\_OPP+CUSH\_OPP+SEP\_OPP+TAY\_OPP+CTCH\_OPP+YACR\_OPP,data=train\_WP\_RUSHTD,importance=TRUE)

## Warning in randomForest.default(m, y, ...): The response has five or fewer  
## unique values. Are you sure you want to do regression?

IRF17<-randomForest(ATT\_OPP~TT+CAY+AGG+AYTS+COMP+EFF+EM+TLOS+AVG+CUSH+SEP+TAY+CTCH+YACR+TT\_OPP+CAY\_OPP+AGG\_OPP+AYTS\_OPP+COMP\_OPP+EFF\_OPP+EM\_OPP+TLOS\_OPP+AVG\_OPP+CUSH\_OPP+SEP\_OPP+TAY\_OPP+CTCH\_OPP+YACR\_OPP,data=train\_WP\_ATT\_OPP,importance=TRUE)  
IRF18<-randomForest(TD\_OPP~TT+CAY+AGG+AYTS+COMP+EFF+EM+TLOS+AVG+CUSH+SEP+TAY+CTCH+YACR+TT\_OPP+CAY\_OPP+AGG\_OPP+AYTS\_OPP+COMP\_OPP+EFF\_OPP+EM\_OPP+TLOS\_OPP+AVG\_OPP+CUSH\_OPP+SEP\_OPP+TAY\_OPP+CTCH\_OPP+YACR\_OPP,data=train\_WP\_TD\_OPP,importance=TRUE)

## Warning in randomForest.default(m, y, ...): The response has five or fewer  
## unique values. Are you sure you want to do regression?

IRF19<-randomForest(INT\_OPP~TT+CAY+AGG+AYTS+COMP+EFF+EM+TLOS+AVG+CUSH+SEP+TAY+CTCH+YACR+TT\_OPP+CAY\_OPP+AGG\_OPP+AYTS\_OPP+COMP\_OPP+EFF\_OPP+EM\_OPP+TLOS\_OPP+AVG\_OPP+CUSH\_OPP+SEP\_OPP+TAY\_OPP+CTCH\_OPP+YACR\_OPP,data=train\_WP\_INT\_OPP,importance=TRUE)

## Warning in randomForest.default(m, y, ...): The response has five or fewer  
## unique values. Are you sure you want to do regression?

IRF20<-randomForest(RUSHATT\_OPP~TT+CAY+AGG+AYTS+COMP+EFF+EM+TLOS+AVG+CUSH+SEP+TAY+CTCH+YACR+TT\_OPP+CAY\_OPP+AGG\_OPP+AYTS\_OPP+COMP\_OPP+EFF\_OPP+EM\_OPP+TLOS\_OPP+AVG\_OPP+CUSH\_OPP+SEP\_OPP+TAY\_OPP+CTCH\_OPP+YACR\_OPP,data=train\_WP\_RUSHATT\_OPP,importance=TRUE)  
IRF21<-randomForest(RUSHTD\_OPP~TT+CAY+AGG+AYTS+COMP+EFF+EM+TLOS+AVG+CUSH+SEP+TAY+CTCH+YACR+TT\_OPP+CAY\_OPP+AGG\_OPP+AYTS\_OPP+COMP\_OPP+EFF\_OPP+EM\_OPP+TLOS\_OPP+AVG\_OPP+CUSH\_OPP+SEP\_OPP+TAY\_OPP+CTCH\_OPP+YACR\_OPP,data=train\_WP\_RUSHTD\_OPP,importance=TRUE)

## Warning in randomForest.default(m, y, ...): The response has five or fewer  
## unique values. Are you sure you want to do regression?

#Dolphins VS LAC  
LAC\_SV1 <- data.frame(TT=2.585,  
CAY=6.02,  
AGG=14.48,  
AYTS=-0.81,  
ATT=35.8,  
TD=1.7,  
INT=1.3,  
COMP=67.61,  
EFF=4.493,  
EM=17.7375,  
TLOS=2.852,  
AVG=3.965,  
CUSH=5.258333,  
SEP=2.936667,  
TAY=10.85667,  
CTCH=71.2115,  
YACR=3.993333,  
Week=4 )  
  
#Dallas vs. NYG week 7  
DAL\_SV1 <- data.frame(TT=2.812143,  
CAY=7.371429,  
AGG=17.65,  
AYTS=0.2428571,  
ATT=37.92857,  
TD=1.714286,  
INT=0.7142857,  
COMP=66.25,  
EFF=4.013571,  
EM=22.90107,  
TLOS=2.763571,  
AVG=4.117857,  
CUSH=5.657024,  
SEP=2.57631,  
TAY=10.92202,  
CTCH=67.72182,  
YACR=4.314286,  
Week=7  
)  
#Houston vs. Pats  
HOU\_SV1 <- data.frame(TT=2.805,  
CAY=6.45,  
AGG=15.51,  
AYTS=0.4,  
ATT=34,  
TD=1.7,  
INT=0.8,  
COMP=66.53,  
EFF=4.195,  
EM=20.158,  
TLOS=2.685,  
AVG=3.78,  
CUSH=5.445833,  
SEP=3.015,  
TAY=10.6225,  
CTCH=65.96517,  
YACR=4.638333,  
Week= 13  
)  
  
#Pats Vs. Houston week 13  
NE\_SV1 <- data.frame(TT=2.761667,  
CAY=5.658333,  
AGG=16.4,  
AYTS=-1.566667,  
ATT=37.75,  
TD=1.416667,  
INT=0.5,  
COMP=60.2,  
EFF=4.098333,  
EM=41.28583,  
TLOS=2.7075,  
AVG=4.041667,  
CUSH=5.234722,  
SEP=2.603472,  
TAY=10.03611,  
CTCH=54.95278,  
YACR=3.210417,  
Week=13  
)  
  
#MIA vs. Chargers week 4   
MIA\_SV1 <- data.frame(TT=2.616667,  
CAY=6.733333,  
AGG=23.42222,  
AYTS=-0.3444444,  
ATT=33.77778,  
TD=2,  
INT=1.111111,  
COMP=61.9,  
EFF=6.448889,  
EM=28.13333,  
TLOS=2.768889,  
AVG=2.833333,  
CUSH=5.628704,  
SEP=2.515741,  
TAY=10.81389,  
CTCH=60.82852,  
YACR=3.99537,  
Week=4  
)  
  
# Saints vs. TB week 5   
NO\_SV1 <- data.frame(TT=2.682857,  
CAY=4.85,  
AGG=12.62143,  
AYTS=-2.55,  
ATT=35.21429,  
TD=2.285714,  
INT=0.3571429,  
COMP=70.34286,  
EFF=4.182857,  
EM=24.24214,  
TLOS=2.723571,  
AVG=4.378571,  
CUSH=5.569048,  
SEP=2.819048,  
TAY=9.671429,  
CTCH=68.09631,  
YACR=4.619048,  
Week= 5   
)  
#OAK VS HOUSTON week 7  
OAK\_SV1 <- data.frame(TT=2.896923,  
CAY=5.092308,  
AGG=13.30769,  
AYTS=-2.115385,  
ATT=31.84615,  
TD=1.307692,  
INT=0.4615385,  
COMP=70.69231,  
EFF=3.731538,  
EM=20.81538,  
TLOS=2.713077,  
AVG=4.476923,  
CUSH=5.887179,  
SEP=2.970513,  
TAY=8.946154,  
CTCH=71.2391,  
YACR=5.776923,  
Week=7   
)  
#NYG vs. DALLAS week 7   
NYG\_SV1 <- data.frame(TT=2.82,  
CAY=5.853846,  
AGG=21.66923,  
AYTS=-1.069231,  
ATT=37.38462,  
TD=1.692308,  
INT=1.230769,  
COMP=61.66154,  
EFF=14.86577,  
EM=18.05923,  
TLOS=2.857692,  
AVG=4.238462,  
CUSH=5.373718,  
SEP=2.502564,  
TAY=9.224359,  
CTCH=61.88724,  
YACR=4.267308,  
Week=7   
)  
#SEA vs. SF week 17   
SEA\_SV1 <- data.frame(TT=2.843333,  
CAY=6.791667,  
AGG=17.65833,  
AYTS=0.375,  
ATT=33,  
TD=1.833333,  
INT=0.3333333,  
COMP=62.33333,  
EFF=3.970417,  
EM=23.8825,  
TLOS=2.862083,  
AVG=4.845833,  
CUSH=5.525,  
SEP=3.0375,  
TAY=10.92778,  
CTCH=70.80903,  
YACR=4.5375,  
Week=17  
)  
  
#TB vs. Saints week 5   
TB\_SV1 <- data.frame(TT=2.780769,  
CAY=8.461538,  
AGG=15.15385,  
AYTS=1.192308,  
ATT=39.07692,  
TD=1.846154,  
INT=1.923077,  
COMP=62.51538,  
EFF=4.099231,  
EM=27.30077,  
TLOS=2.670385,  
AVG=4.134615,  
CUSH=5.671154,  
SEP=2.498077,  
TAY=13.33397,  
CTCH=62.88096,  
YACR=4.782051,  
Week=5  
)  
  
#SF vs seattle week 17  
SF\_SV1 <- data.frame(TT=2.660667,  
CAY=5.426667,  
AGG=16.81333,  
AYTS=-2.353333,  
ATT=31.26667,  
TD=1.733333,  
INT=0.8,  
COMP=68.32667,  
EFF=5.163778,  
EM=40.854,  
TLOS=2.939556,  
AVG=4.568889,  
CUSH=4.936111,  
SEP=3.072222,  
TAY=7.687778,  
CTCH=74.04972,  
YACR=6.507778,  
Week=17  
)

#Team Matchups   
  
# LAC for LAC vs. MIA   
  
LAC\_MIA\_MU <- data.frame(TT=2.585,  
CAY=6.02,  
AGG=14.48,  
AYTS=-0.81,  
ATT=35.8,  
TD=1.7,  
INT=1.3,  
COMP=67.61,  
EFF=4.493,  
EM=17.7375,  
TLOS=2.852,  
AVG=3.965,  
CUSH=5.258333,  
SEP=2.936667,  
TAY=10.85667,  
CTCH=71.2115,  
YACR=3.993333,  
TT\_OPP=2.616667,  
CAY\_OPP=6.733333,  
AGG\_OPP=23.42222,  
AYTS\_OPP=-0.3444444,  
ATT\_OPP=33.77778,  
TD\_OPP=2,  
INT\_OPP=1.111111,  
COMP\_OPP=61.9,  
EFF\_OPP=6.448889,  
EM\_OPP=28.13333,  
TLOS\_OPP=2.768889,  
AVG\_OPP=2.833333,  
CUSH\_OPP=5.628704,  
SEP\_OPP=2.515741,  
TAY\_OPP=10.81389,  
CTCH\_OPP=60.82852,  
YACR\_OPP=3.99537  
)  
  
  
# MIA for MIA vS. LAC  
  
MIA\_LAC\_MU <- data.frame(TT=2.616667,  
CAY=6.733333,  
AGG=23.42222,  
AYTS=-0.3444444,  
ATT=33.77778,  
TD=2,  
INT=1.111111,  
COMP=61.9,  
EFF=6.448889,  
EM=28.13333,  
TLOS=2.768889,  
AVG=2.833333,  
CUSH=5.628704,  
SEP=2.515741,  
TAY=10.81389,  
CTCH=60.82852,  
YACR=3.99537,  
TT\_OPP=2.585,  
CAY\_OPP=6.02,  
AGG\_OPP=14.48,  
AYTS\_OPP=-0.81,  
ATT\_OPP=35.8,  
TD\_OPP=1.7,  
INT\_OPP=1.3,  
COMP\_OPP=67.61,  
EFF\_OPP=4.493,  
EM\_OPP=17.7375,  
TLOS\_OPP=2.852,  
AVG\_OPP=3.965,  
CUSH\_OPP=5.258333,  
SEP\_OPP=2.936667,  
TAY\_OPP=10.85667,  
CTCH\_OPP=71.2115,  
YACR\_OPP=3.993333  
)  
  
  
# DALLAS FOR DAL VS. NYG  
DAL\_NYG\_MU <- data.frame(TT=2.812143,  
CAY=7.371429,  
AGG=17.65,  
AYTS=0.2428571,  
ATT=37.92857,  
TD=1.714286,  
INT=0.7142857,  
COMP=66.25,  
EFF=4.013571,  
EM=22.90107,  
TLOS=2.763571,  
AVG=4.117857,  
CUSH=5.657024,  
SEP=2.57631,  
TAY=10.92202,  
CTCH=67.72182,  
YACR=4.314286,  
TT\_OPP=2.82,  
CAY\_OPP=5.853846,  
AGG\_OPP=21.66923,  
AYTS\_OPP=-1.069231,  
ATT\_OPP=37.38462,  
TD\_OPP=1.692308,  
INT\_OPP=1.230769,  
COMP\_OPP=61.66154,  
EFF\_OPP=14.86577,  
EM\_OPP=18.05923,  
TLOS\_OPP=2.857692,  
AVG\_OPP=4.238462,  
CUSH\_OPP=5.373718,  
SEP\_OPP=2.502564,  
TAY\_OPP=9.224359,  
CTCH\_OPP=61.88724,  
YACR\_OPP=4.267308  
)  
  
  
# NYG for NYG VS. DAL  
NYG\_DAL\_MU <- data.frame(TT=2.82,  
CAY=5.853846,  
AGG=21.66923,  
AYTS=-1.069231,  
ATT=37.38462,  
TD=1.692308,  
INT=1.230769,  
COMP=61.66154,  
EFF=14.86577,  
EM=18.05923,  
TLOS=2.857692,  
AVG=4.238462,  
CUSH=5.373718,  
SEP=2.502564,  
TAY=9.224359,  
CTCH=61.88724,  
YACR=4.267308,  
TT\_OPP=2.812143,  
CAY\_OPP=7.371429,  
AGG\_OPP=17.65,  
AYTS\_OPP=0.2428571,  
ATT\_OPP=37.92857,  
TD\_OPP=1.714286,  
INT\_OPP=0.7142857,  
COMP\_OPP=66.25,  
EFF\_OPP=4.013571,  
EM\_OPP=22.90107,  
TLOS\_OPP=2.763571,  
AVG\_OPP=4.117857,  
CUSH\_OPP=5.657024,  
SEP\_OPP=2.57631,  
TAY\_OPP=10.92202,  
CTCH\_OPP=67.72182,  
YACR\_OPP=4.314286  
)  
  
  
# HOU for HOU VS. NE  
HOU\_NE\_MU <- data.frame(TT=2.805,  
CAY=6.45,  
AGG=15.51,  
AYTS=0.4,  
ATT=34,  
TD=1.7,  
INT=0.8,  
COMP=66.53,  
EFF=4.195,  
EM=20.158,  
TLOS=2.685,  
AVG=3.78,  
CUSH=5.445833,  
SEP=3.015,  
TAY=10.6225,  
CTCH=65.96517,  
YACR=4.638333,  
TT\_OPP=2.761667,  
CAY\_OPP=5.658333,  
AGG\_OPP=16.4,  
AYTS\_OPP=-1.566667,  
ATT\_OPP=37.75,  
TD\_OPP=1.416667,  
INT\_OPP=0.5,  
COMP\_OPP=60.2,  
EFF\_OPP=4.098333,  
EM\_OPP=41.28583,  
TLOS\_OPP=2.7075,  
AVG\_OPP=4.041667,  
CUSH\_OPP=5.234722,  
SEP\_OPP=2.603472,  
TAY\_OPP=10.03611,  
CTCH\_OPP=54.95278,  
YACR\_OPP=3.210417  
)  
  
  
# NE for NE vs. HOU  
NE\_HOU\_MU <- data.frame(TT=2.761667,  
CAY=5.658333,  
AGG=16.4,  
AYTS=-1.566667,  
ATT=37.75,  
TD=1.416667,  
INT=0.5,  
COMP=60.2,  
EFF=4.098333,  
EM=41.28583,  
TLOS=2.7075,  
AVG=4.041667,  
CUSH=5.234722,  
SEP=2.603472,  
TAY=10.03611,  
CTCH=54.95278,  
YACR=3.210417,  
TT\_OPP=2.805,  
CAY\_OPP=6.45,  
AGG\_OPP=15.51,  
AYTS\_OPP=0.4,  
ATT\_OPP=34,  
TD\_OPP=1.7,  
INT\_OPP=0.8,  
COMP\_OPP=66.53,  
EFF\_OPP=4.195,  
EM\_OPP=20.158,  
TLOS\_OPP=2.685,  
AVG\_OPP=3.78,  
CUSH\_OPP=5.445833,  
SEP\_OPP=3.015,  
TAY\_OPP=10.6225,  
CTCH\_OPP=65.96517,  
YACR\_OPP=4.638333  
)  
  
  
#SAINTS for NO vs. TB  
NO\_TB\_MU <- data.frame(TT=2.682857,  
CAY=4.85,  
AGG=12.62143,  
AYTS=-2.55,  
ATT=35.21429,  
TD=2.285714,  
INT=0.3571429,  
COMP=70.34286,  
EFF=4.182857,  
EM=24.24214,  
TLOS=2.723571,  
AVG=4.378571,  
CUSH=5.569048,  
SEP=2.819048,  
TAY=9.671429,  
CTCH=68.09631,  
YACR=4.619048,  
TT\_OPP=2.780769,  
CAY\_OPP=8.461538,  
AGG\_OPP=15.15385,  
AYTS\_OPP=1.192308,  
ATT\_OPP=39.07692,  
TD\_OPP=1.846154,  
INT\_OPP=1.923077,  
COMP\_OPP=62.51538,  
EFF\_OPP=4.099231,  
EM\_OPP=27.30077,  
TLOS\_OPP=2.670385,  
AVG\_OPP=4.134615,  
CUSH\_OPP=5.671154,  
SEP\_OPP=2.498077,  
TAY\_OPP=13.33397,  
CTCH\_OPP=62.88096,  
YACR\_OPP=4.782051  
)  
  
  
#TB for TB vs. NO   
TB\_NO\_MU <- data.frame(TT=2.780769,  
CAY=8.461538,  
AGG=15.15385,  
AYTS=1.192308,  
ATT=39.07692,  
TD=1.846154,  
INT=1.923077,  
COMP=62.51538,  
EFF=4.099231,  
EM=27.30077,  
TLOS=2.670385,  
AVG=4.134615,  
CUSH=5.671154,  
SEP=2.498077,  
TAY=13.33397,  
CTCH=62.88096,  
YACR=4.782051,  
TT\_OPP=2.682857,  
CAY\_OPP=4.85,  
AGG\_OPP=12.62143,  
AYTS\_OPP=-2.55,  
ATT\_OPP=35.21429,  
TD\_OPP=2.285714,  
INT\_OPP=0.3571429,  
COMP\_OPP=70.34286,  
EFF\_OPP=4.182857,  
EM\_OPP=24.24214,  
TLOS\_OPP=2.723571,  
AVG\_OPP=4.378571,  
CUSH\_OPP=5.569048,  
SEP\_OPP=2.819048,  
TAY\_OPP=9.671429,  
CTCH\_OPP=68.09631,  
YACR\_OPP=4.619048  
)  
  
  
# OAK VS. HOU   
OAK\_HOU\_MU <- data.frame(TT=2.896923,  
CAY=5.092308,  
AGG=13.30769,  
AYTS=-2.115385,  
ATT=31.84615,  
TD=1.307692,  
INT=0.4615385,  
COMP=70.69231,  
EFF=3.731538,  
EM=20.81538,  
TLOS=2.713077,  
AVG=4.476923,  
CUSH=5.887179,  
SEP=2.970513,  
TAY=8.946154,  
CTCH=71.2391,  
YACR=5.776923,  
TT\_OPP=2.805,  
CAY\_OPP=6.45,  
AGG\_OPP=15.51,  
AYTS\_OPP=0.4,  
ATT\_OPP=34,  
TD\_OPP=1.7,  
INT\_OPP=0.8,  
COMP\_OPP=66.53,  
EFF\_OPP=4.195,  
EM\_OPP=20.158,  
TLOS\_OPP=2.685,  
AVG\_OPP=3.78,  
CUSH\_OPP=5.445833,  
SEP\_OPP=3.015,  
TAY\_OPP=10.6225,  
CTCH\_OPP=65.96517,  
YACR\_OPP=4.638333  
)  
  
  
#SF for SF vs. SEA  
SF\_SEA\_MU <- data.frame(TT=2.660667,  
CAY=5.426667,  
AGG=16.81333,  
AYTS=-2.353333,  
ATT=31.26667,  
TD=1.733333,  
INT=0.8,  
COMP=68.32667,  
EFF=5.163778,  
EM=40.854,  
TLOS=2.939556,  
AVG=4.568889,  
CUSH=4.936111,  
SEP=3.072222,  
TAY=7.687778,  
CTCH=74.04972,  
YACR=6.507778,  
TT\_OPP=2.843333,  
CAY\_OPP=6.791667,  
AGG\_OPP=17.65833,  
AYTS\_OPP=0.375,  
ATT\_OPP=33,  
TD\_OPP=1.833333,  
INT\_OPP=0.3333333,  
COMP\_OPP=62.33333,  
EFF\_OPP=3.970417,  
EM\_OPP=23.8825,  
TLOS\_OPP=2.862083,  
AVG\_OPP=4.845833,  
CUSH\_OPP=5.525,  
SEP\_OPP=3.0375,  
TAY\_OPP=10.92778,  
CTCH\_OPP=70.80903,  
YACR\_OPP=4.5375  
)  
  
  
# SEA for SEA vs. SF  
SEA\_SF\_MU <- data.frame(TT=2.843333,  
CAY=6.791667,  
AGG=17.65833,  
AYTS=0.375,  
ATT=33,  
TD=1.833333,  
INT=0.3333333,  
COMP=62.33333,  
EFF=3.970417,  
EM=23.8825,  
TLOS=2.862083,  
AVG=4.845833,  
CUSH=5.525,  
SEP=3.0375,  
TAY=10.92778,  
CTCH=70.80903,  
YACR=4.5375,  
TT\_OPP=2.660667,  
CAY\_OPP=5.426667,  
AGG\_OPP=16.81333,  
AYTS\_OPP=-2.353333,  
ATT\_OPP=31.26667,  
TD\_OPP=1.733333,  
INT\_OPP=0.8,  
COMP\_OPP=68.32667,  
EFF\_OPP=5.163778,  
EM\_OPP=40.854,  
TLOS\_OPP=2.939556,  
AVG\_OPP=4.568889,  
CUSH\_OPP=4.936111,  
SEP\_OPP=3.072222,  
TAY\_OPP=7.687778,  
CTCH\_OPP=74.04972,  
YACR\_OPP=6.507778  
)  
  
  
  
NE\_SB <- data.frame(TT=2.44,  
CAY=6.1,  
AGG=22.9,  
AYTS=-0.5,  
ATT=35,  
TD=0,  
INT=1,  
COMP=60,  
EFF=2.97,  
EM=55.56,  
TLOS=2.52,  
AVG=5.2,  
CUSH=5.6,  
SEP=2.87,  
TAY=10.57,  
CTCH=70,  
YACR=7.05,  
TT\_OPP=3.16,  
CAY\_OPP=7.4,  
AGG\_OPP=26.3,  
AYTS\_OPP=1.4,  
ATT\_OPP=38,  
TD\_OPP=0,  
INT\_OPP=1,  
COMP\_OPP=50,  
EFF\_OPP=4.25,  
EM\_OPP=20.158,  
TLOS\_OPP=2.93,  
AVG\_OPP=3.5,  
CUSH\_OPP=6.1,  
SEP\_OPP=2.1,  
TAY\_OPP=12.53,  
CTCH\_OPP=51.47,  
YACR\_OPP=4.07,   
Week = 17  
)  
  
LAR\_SB <- data.frame(TT=3.16,  
CAY=7.4,  
AGG=26.3,  
AYTS=1.4,  
ATT=38,  
TD=0,  
INT=1,  
COMP=50,  
EFF=4.25,  
EM=20.158,  
TLOS=2.93,  
AVG=3.5,  
CUSH=6.1,  
SEP=2.1,  
TAY=12.53,  
CTCH=51.47,  
YACR=4.07,  
TT\_OPP=2.44,  
CAY\_OPP=6.1,  
AGG\_OPP=22.9,  
AYTS\_OPP=-0.5,  
ATT\_OPP=35,  
TD\_OPP=0,  
INT\_OPP=1,  
COMP\_OPP=60,  
EFF\_OPP=2.97,  
EM\_OPP=55.56,  
TLOS\_OPP=2.52,  
AVG\_OPP=5.2,  
CUSH\_OPP=5.6,  
SEP\_OPP=2.87,  
TAY\_OPP=10.57,  
CTCH\_OPP=70,  
YACR\_OPP=7.05,  
Week = 17  
)  
  
  
  
  
HOUOAK<- data.frame(TT=2.805,  
CAY=6.45,  
AGG=15.51,  
AYTS=0.4,  
ATT=34,  
TD=1.7,  
INT=0.8,  
COMP=66.53,  
EFF=4.195,  
EM=20.158,  
TLOS=2.685,  
AVG=3.78,  
CUSH=5.445833,  
SEP=3.015,  
TAY=10.6225,  
CTCH=65.96517,  
YACR=4.638333,  
TT\_OPP=2.896923,  
CAY\_OPP=5.092308,  
AGG\_OPP=13.30769,  
AYTS\_OPP=-2.115385,  
ATT\_OPP=31.84615,  
TD\_OPP=1.307692,  
INT\_OPP=0.4615385,  
COMP\_OPP=70.69231,  
EFF\_OPP=3.731538,  
EM\_OPP=20.81538,  
TLOS\_OPP=2.713077,  
AVG\_OPP=4.476923,  
CUSH\_OPP=5.887179,  
SEP\_OPP=2.970513,  
TAY\_OPP=8.946154,  
CTCH\_OPP=71.2391,  
YACR\_OPP=5.776923  
)

# new dataframes  
  
BALPIT <- data.frame(  
TT=2.96,  
CAY=6.4,  
AGG=14.6,  
AYTS=-0.8,  
ATT=27.4,  
TD=1.55,  
INT=0.55,  
COMP=64,  
EFF=3.56,  
EM=22.88333,  
TLOS=2.84,  
AVG=4.7,  
CUSH=6.2667,  
SEP=3.133,  
TAY=11.333,  
CTCH=65.4,  
YACR=4.5,  
TT\_OPP=2.31,  
CAY\_OPP=4.8,  
AGG\_OPP=16.2,  
AYTS\_OPP=-1.4,  
ATT\_OPP=37.11,  
TD\_OPP=2.44,  
INT\_OPP=0.44,  
COMP\_OPP=66.8,  
EFF\_OPP=4.08,  
EM\_OPP=22.73,  
TLOS\_OPP=2.85,  
AVG\_OPP=4.2,  
CUSH\_OPP=6,  
SEP\_OPP=3.06,  
TAY\_OPP=9.22,  
CTCH\_OPP=64.246,  
YACR\_OPP=5.12, Week = 12  
)  
  
  
PITBAL <- data.frame(TT=2.31,  
CAY=4.8,  
AGG=16.2,  
AYTS=-1.4,  
ATT=37.11,  
TD=2.44,  
INT=0.44,  
COMP=66.8,  
EFF=4.08,  
EM=22.73,  
TLOS=2.85,  
AVG=4.2,  
CUSH=6,  
SEP=3.06,  
TAY=9.22,  
CTCH=64.246,  
YACR=5.12,  
TT\_OPP=2.96,  
CAY\_OPP=6.4,  
AGG\_OPP=14.6,  
AYTS\_OPP=-0.8,  
ATT\_OPP=27.4,  
TD\_OPP=1.55,  
INT\_OPP=0.55,  
COMP\_OPP=64,  
EFF\_OPP=3.56,  
EM\_OPP=22.88333,  
TLOS\_OPP=2.84,  
AVG\_OPP=4.7,  
CUSH\_OPP=6.2667,  
SEP\_OPP=3.133,  
TAY\_OPP=11.333,  
CTCH\_OPP=65.4,  
YACR\_OPP=4.5, Week = 12  
)  
  
ARILAR <- data.frame(TT=2.74,  
CAY=6.3,  
AGG=12.2,  
AYTS=-0.7,  
ATT=34.556,  
TD=1.889,  
INT=0.889,  
COMP=68.2,  
EFF=3.555,  
EM=10.895,  
TLOS=2.8,  
AVG=4.7,  
CUSH=6.3,  
SEP=3.23,  
TAY=9.3,  
CTCH=69.77,  
YACR=4.4,  
TT\_OPP=2.73,  
CAY\_OPP=5.2,  
AGG\_OPP=13.7,  
AYTS\_OPP=-1.2,  
ATT\_OPP=35.667,  
TD\_OPP=1.44,  
INT\_OPP=0.667,  
COMP\_OPP=66.4,  
EFF\_OPP=3.785,  
EM\_OPP=21.13,  
TLOS\_OPP=2.8,  
AVG\_OPP=4.55,  
CUSH\_OPP=6.26,  
SEP\_OPP=3.28,  
TAY\_OPP=8,  
CTCH\_OPP=69.594,  
YACR\_OPP=6.04, Week = 13  
)  
  
ATLCAR <- data.frame(TT=2.89,  
CAY=7.6,  
AGG=14.5,  
AYTS=0.4,  
ATT=39,  
TD=1.667,  
INT=0.556,  
COMP=67.2,  
EFF=4.345,  
EM=17.52,  
TLOS=2.86,  
AVG=4,  
CUSH=6.62,  
SEP=3.12,  
TAY=11.2,  
CTCH=68.03,  
YACR=3.98,  
TT\_OPP=2.6,  
CAY\_OPP=4.7,  
AGG\_OPP=10.6,  
AYTS\_OPP=-2.1,  
ATT\_OPP=33,  
TD\_OPP=1.3,  
INT\_OPP=0.7,  
COMP\_OPP=72.1,  
EFF\_OPP=4.14,  
EM\_OPP=25.08,  
TLOS\_OPP=2.875,  
AVG\_OPP=4,  
CUSH\_OPP=6.3667,  
SEP\_OPP=2.9667,  
TAY\_OPP=9.333,  
CTCH\_OPP=72.12,  
YACR\_OPP=5.5, Week = 7  
)  
  
CARATL <- data.frame(TT=2.6,  
CAY=4.7,  
AGG=10.6,  
AYTS=-2.1,  
ATT=33,  
TD=1.3,  
INT=0.7,  
COMP=72.1,  
EFF=4.14,  
EM=25.08,  
TLOS=2.875,  
AVG=4,  
CUSH=6.3667,  
SEP=2.9667,  
TAY=9.333,  
CTCH=72.12,  
YACR=5.5,  
TT\_OPP=2.89,  
CAY\_OPP=7.6,  
AGG\_OPP=14.5,  
AYTS\_OPP=0.4,  
ATT\_OPP=39,  
TD\_OPP=1.667,  
INT\_OPP=0.556,  
COMP\_OPP=67.2,  
EFF\_OPP=4.345,  
EM\_OPP=17.52,  
TLOS\_OPP=2.86,  
AVG\_OPP=4,  
CUSH\_OPP=6.62,  
SEP\_OPP=3.12,  
TAY\_OPP=11.2,  
CTCH\_OPP=68.03,  
YACR\_OPP=3.98, Week = 7  
)  
  
  
  
BUFNYJ <- data.frame(TT=3.05,  
CAY=6.8,  
AGG=14.6,  
AYTS=-1.1,  
ATT=36.4,  
TD=2.1,  
INT=0.7,  
COMP=68.4,  
EFF=4.22,  
EM=9.14,  
TLOS=2.92,  
AVG=3.95,  
CUSH=5.525,  
SEP=3.325,  
TAY=11.075,  
CTCH=68.8425,  
YACR=4.25,  
TT\_OPP=2.89,  
CAY\_OPP=6,  
AGG\_OPP=19.2,  
AYTS\_OPP=1.8,  
ATT\_OPP=35,  
TD\_OPP=1.33,  
INT\_OPP=0.667,  
COMP\_OPP=56.7,  
EFF\_OPP=4.14,  
EM\_OPP=8.33,  
TLOS\_OPP=2.67,  
AVG\_OPP=3.6,  
CUSH\_OPP=5.725,  
SEP\_OPP=2.875,  
TAY\_OPP=9.775,  
CTCH\_OPP=55.5975,  
YACR\_OPP=4.275, Week = 7   
)  
  
  
  
NYJNE <- data.frame(TT=2.89,  
CAY=6,  
AGG=19.2,  
AYTS=1.8,  
ATT=35,  
TD=1.33,  
INT=0.667,  
COMP=56.7,  
EFF=4.14,  
EM=8.33,  
TLOS=2.67,  
AVG=3.6,  
CUSH=5.725,  
SEP=2.875,  
TAY=9.775,  
CTCH=55.5975,  
YACR=4.275,  
TT\_OPP=2.83,  
CAY\_OPP=5.5,  
AGG\_OPP=13,  
AYTS\_OPP=-2.4,  
ATT\_OPP=26,  
TD\_OPP=0.375,  
INT\_OPP=0.875,  
COMP\_OPP=68.8,  
EFF\_OPP=3.52,  
EM\_OPP=30.495,  
TLOS\_OPP=2.67,  
AVG\_OPP=4.85,  
CUSH\_OPP=5.9,  
SEP\_OPP=2.88,  
TAY\_OPP=9.82,  
CTCH\_OPP=62.478,  
YACR\_OPP=3.4, Week = 17  
)  
  
  
  
CHIGB <- data.frame(TT=2.49,  
CAY=5.4,  
AGG=21.4,  
AYTS=-1,  
ATT=40.7,  
TD=1.42,  
INT=1,  
COMP=65.6,  
EFF=4.31,  
EM=10.69,  
TLOS=2.91,  
AVG=3.6,  
CUSH=6,  
SEP=2.65,  
TAY=10.25,  
CTCH=62.02675,  
YACR=3.25,  
TT\_OPP=2.68,  
CAY\_OPP=5.9,  
AGG\_OPP=13.1,  
AYTS\_OPP=0.1,  
ATT\_OPP=34.889,  
TD\_OPP=2.889,  
INT\_OPP=0.333,  
COMP\_OPP=67.8,  
EFF\_OPP=3.73,  
EM\_OPP=24.15,  
TLOS\_OPP=2.69,  
AVG\_OPP=4.55,  
CUSH\_OPP=5.4,  
SEP\_OPP=3.5,  
TAY\_OPP=11.9667,  
CTCH\_OPP=69.52667,  
YACR\_OPP=5.9, Week = 12  
)  
  
GBCHI <- data.frame(TT=2.68,  
CAY=5.9,  
AGG=13.1,  
AYTS=0.1,  
ATT=34.889,  
TD=2.889,  
INT=0.333,  
COMP=67.8,  
EFF=3.73,  
EM=24.15,  
TLOS=2.69,  
AVG=4.55,  
CUSH=5.4,  
SEP=3.5,  
TAY=11.9667,  
CTCH=69.52667,  
YACR=5.9,  
TT\_OPP=2.49,  
CAY\_OPP=5.4,  
AGG\_OPP=21.4,  
AYTS\_OPP=-1,  
ATT\_OPP=40.7,  
TD\_OPP=1.42,  
INT\_OPP=1,  
COMP\_OPP=65.6,  
EFF\_OPP=4.31,  
EM\_OPP=10.69,  
TLOS\_OPP=2.91,  
AVG\_OPP=3.6,  
CUSH\_OPP=6,  
SEP\_OPP=2.65,  
TAY\_OPP=10.25,  
CTCH\_OPP=62.02675,  
YACR\_OPP=3.25, Week = 12  
)  
  
CINCLE <- data.frame(TT=2.67,  
CAY=5.8,  
AGG=21.6,  
AYTS=-0.4,  
ATT=41.11,  
TD=1.333,  
INT=0.556,  
COMP=65.4,  
EFF=4.46,  
EM=8.4,  
TLOS=2.79,  
AVG=3.6,  
CUSH=5.8,  
SEP=2.725,  
TAY=10.225,  
CTCH=65.385,  
YACR=4.125,  
TT\_OPP=3.11,  
CAY\_OPP=7.2,  
AGG\_OPP=16.9,  
AYTS\_OPP=0.2,  
ATT\_OPP=27,  
TD\_OPP=1.667,  
INT\_OPP=0.778,  
COMP\_OPP=61.3,  
EFF\_OPP=3.495,  
EM\_OPP=28.475,  
TLOS\_OPP=2.96,  
AVG\_OPP=5.4,  
CUSH\_OPP=5.6,  
SEP\_OPP=2.9333,  
TAY\_OPP=10.1,  
CTCH\_OPP=61.55,  
YACR\_OPP=3.733, Week = 2   
)  
  
  
CLECIN <- data.frame(TT=3.11,  
CAY=7.2,  
AGG=16.9,  
AYTS=0.2,  
ATT=27,  
TD=1.667,  
INT=0.778,  
COMP=61.3,  
EFF=3.495,  
EM=28.475,  
TLOS=2.96,  
AVG=5.4,  
CUSH=5.6,  
SEP=2.9333,  
TAY=10.1,  
CTCH=61.55,  
YACR=3.733,  
TT\_OPP=2.67,  
CAY\_OPP=5.8,  
AGG\_OPP=21.6,  
AYTS\_OPP=-0.4,  
ATT\_OPP=41.11,  
TD\_OPP=1.333,  
INT\_OPP=0.556,  
COMP\_OPP=65.4,  
EFF\_OPP=4.46,  
EM\_OPP=8.4,  
TLOS\_OPP=2.79,  
AVG\_OPP=3.6,  
CUSH\_OPP=5.8,  
SEP\_OPP=2.725,  
TAY\_OPP=10.225,  
CTCH\_OPP=65.385,  
YACR\_OPP=4.125, Week = 2   
)  
  
DENKC <- data.frame(TT=2.93,  
CAY=6.4,  
AGG=18.9,  
AYTS=0.7,  
ATT=26.4,  
TD=0.778,  
INT=1.11,  
COMP=55,  
EFF=3.86,  
EM=10.46,  
TLOS=2.905,  
AVG=4.8,  
CUSH=6.14,  
SEP=3.02,  
TAY=11.66,  
CTCH=58.144,  
YACR=4.7,  
TT\_OPP=2.86,  
CAY\_OPP=6.3,  
AGG\_OPP=11.2,  
AYTS\_OPP=-0.5,  
ATT\_OPP=36.556,  
TD\_OPP=2.778,  
INT\_OPP=0.111,  
COMP\_OPP=66.9,  
EFF\_OPP=3.66,  
EM\_OPP=9.52,  
TLOS\_OPP=2.81,  
AVG\_OPP=4.7,  
CUSH\_OPP=5.78,  
SEP\_OPP=3.72,  
TAY\_OPP=10.04,  
CTCH\_OPP=70.356,  
YACR\_OPP=5.3, Week = 13  
)  
  
KCDEN <- data.frame(TT=2.86,  
CAY=6.3,  
AGG=11.2,  
AYTS=-0.5,  
ATT=36.556,  
TD=2.778,  
INT=0.111,  
COMP=66.9,  
EFF=3.66,  
EM=9.52,  
TLOS=2.81,  
AVG=4.7,  
CUSH=5.78,  
SEP=3.72,  
TAY=10.04,  
CTCH=70.356,  
YACR=5.3,  
TT\_OPP=2.93,  
CAY\_OPP=6.4,  
AGG\_OPP=18.9,  
AYTS\_OPP=0.7,  
ATT\_OPP=26.4,  
TD\_OPP=0.778,  
INT\_OPP=1.11,  
COMP\_OPP=55,  
EFF\_OPP=3.86,  
EM\_OPP=10.46,  
TLOS\_OPP=2.905,  
AVG\_OPP=4.8,  
CUSH\_OPP=6.14,  
SEP\_OPP=3.02,  
TAY\_OPP=11.66,  
CTCH\_OPP=58.144,  
YACR\_OPP=4.7, Week = 13  
)  
  
DETMIN <- data.frame(TT=2.62,  
CAY=6.5,  
AGG=16.7,  
AYTS=-0.4,  
ATT=34.556,  
TD=1.889,  
INT=0.778,  
COMP=63.7,  
EFF=3.925,  
EM=27.49,  
TLOS=2.75,  
AVG=4.25,  
CUSH=6.075,  
SEP=2.85,  
TAY=10.125,  
CTCH=64.6925,  
YACR=4.675,  
TT\_OPP=2.94,  
CAY\_OPP=7.9,  
AGG\_OPP=19.1,  
AYTS\_OPP=0.3,  
ATT\_OPP=26.125,  
TD\_OPP=1.875,  
INT\_OPP=1.25,  
COMP\_OPP=65.6,  
EFF\_OPP=3.62,  
EM\_OPP=29.945,  
TLOS\_OPP=2.87,  
AVG\_OPP=5.05,  
CUSH\_OPP=6.2,  
SEP\_OPP=2.55,  
TAY\_OPP=12.95,  
CTCH\_OPP=70.675,  
YACR\_OPP=4.8, Week = 17  
)  
  
  
MINDET <- data.frame(TT=2.94,  
CAY=7.9,  
AGG=19.1,  
AYTS=0.3,  
ATT=26.125,  
TD=1.875,  
INT=1.25,  
COMP=65.6,  
EFF=3.62,  
EM=29.945,  
TLOS=2.87,  
AVG=5.05,  
CUSH=6.2,  
SEP=2.55,  
TAY=12.95,  
CTCH=70.675,  
YACR=4.8,  
TT\_OPP=2.62,  
CAY\_OPP=6.5,  
AGG\_OPP=16.7,  
AYTS\_OPP=-0.4,  
ATT\_OPP=34.556,  
TD\_OPP=1.889,  
INT\_OPP=0.778,  
COMP\_OPP=63.7,  
EFF\_OPP=3.925,  
EM\_OPP=27.49,  
TLOS\_OPP=2.75,  
AVG\_OPP=4.25,  
CUSH\_OPP=6.075,  
SEP\_OPP=2.85,  
TAY\_OPP=10.125,  
CTCH\_OPP=64.6925,  
YACR\_OPP=4.675, Week = 17  
)  
  
INDTEN <- data.frame(TT=2.49,  
CAY=5,  
AGG=15.3,  
AYTS=-1.6,  
ATT=34.778,  
TD=1.22,  
INT=0.778,  
COMP=68.7,  
EFF=4.275,  
EM=26.8,  
TLOS=2.84,  
AVG=3.75,  
CUSH=5.66,  
SEP=2.94,  
TAY=8.6,  
CTCH=68.596,  
YACR=4.74,  
TT\_OPP=2.62,  
CAY\_OPP=7.1,  
AGG\_OPP=19.9,  
AYTS\_OPP=-0.4,  
ATT\_OPP=31.222,  
TD\_OPP=2.22,  
INT\_OPP=0.33,  
COMP\_OPP=64.8,  
EFF\_OPP=3.88,  
EM\_OPP=23.88,  
TLOS\_OPP=2.77,  
AVG\_OPP=4.7,  
CUSH\_OPP=6.22,  
SEP\_OPP=2.6,  
TAY\_OPP=8.88,  
CTCH\_OPP=67.468,  
YACR\_OPP=4.56, Week = 12  
)  
  
  
TENIND <- data.frame(TT=2.62,  
CAY=7.1,  
AGG=19.9,  
AYTS=-0.4,  
ATT=31.222,  
TD=2.22,  
INT=0.33,  
COMP=64.8,  
EFF=3.88,  
EM=23.88,  
TLOS=2.77,  
AVG=4.7,  
CUSH=6.22,  
SEP=2.6,  
TAY=8.88,  
CTCH=67.468,  
YACR=4.56,  
TT\_OPP=2.49,  
CAY\_OPP=5,  
AGG\_OPP=15.3,  
AYTS\_OPP=-1.6,  
ATT\_OPP=34.778,  
TD\_OPP=1.22,  
INT\_OPP=0.778,  
COMP\_OPP=68.7,  
EFF\_OPP=4.275,  
EM\_OPP=26.8,  
TLOS\_OPP=2.84,  
AVG\_OPP=3.75,  
CUSH\_OPP=5.66,  
SEP\_OPP=2.94,  
TAY\_OPP=8.6,  
CTCH\_OPP=68.596,  
YACR\_OPP=4.74, Week = 12  
)  
  
  
JAXIND <- data.frame(TT=2.77,  
CAY=5.7,  
AGG=15.7,  
AYTS=-0.2,  
ATT=29.667,  
TD=1.44,  
INT=0.556,  
COMP=65.9,  
EFF=3.6,  
EM=19.35,  
TLOS=2.72,  
AVG=4.4,  
CUSH=6.18,  
SEP=2.96,  
TAY=9.96,  
CTCH=65.026,  
YACR=4.36,  
TT\_OPP=2.49,  
CAY\_OPP=5,  
AGG\_OPP=15.3,  
AYTS\_OPP=-1.6,  
ATT\_OPP=34.778,  
TD\_OPP=1.22,  
INT\_OPP=0.778,  
COMP\_OPP=68.7,  
EFF\_OPP=4.275,  
EM\_OPP=26.8,  
TLOS\_OPP=2.84,  
AVG\_OPP=3.75,  
CUSH\_OPP=5.66,  
SEP\_OPP=2.94,  
TAY\_OPP=8.6,  
CTCH\_OPP=68.596,  
YACR\_OPP=4.74, Week = 17  
)  
  
PHIWAS <- data.frame(TT=2.9,  
CAY=6.3,  
AGG=17.8,  
AYTS=0.2,  
ATT=38,  
TD=1.33,  
INT=1.33,  
COMP=58.2,  
EFF=3.16,  
EM=3.49,  
TLOS=2.97,  
AVG=6,  
CUSH=6.4,  
SEP=2.96,  
TAY=9.66,  
CTCH=62.22,  
YACR=3.06,  
TT\_OPP=2.74,  
CAY\_OPP=3.8,  
AGG\_OPP=8.7,  
AYTS\_OPP=-3.9,  
ATT\_OPP=34.667,  
TD\_OPP=0.33,  
INT\_OPP=1,  
COMP\_OPP=68.3,  
EFF\_OPP=3.92,  
EM\_OPP=9.71,  
TLOS\_OPP=2.84,  
AVG\_OPP=4.2,  
CUSH\_OPP=6.35,  
SEP\_OPP=3.45,  
TAY\_OPP=7.725,  
CTCH\_OPP=66.9275,  
YACR\_OPP=4.7, Week = 17  
)  
  
  
WASPHI <- data.frame(TT=2.74,  
CAY=3.8,  
AGG=8.7,  
AYTS=-3.9,  
ATT=34.667,  
TD=0.33,  
INT=1,  
COMP=68.3,  
EFF=3.92,  
EM=9.71,  
TLOS=2.84,  
AVG=4.2,  
CUSH=6.35,  
SEP=3.45,  
TAY=7.725,  
CTCH=66.9275,  
YACR=4.7,  
TT\_OPP=2.9,  
CAY\_OPP=6.3,  
AGG\_OPP=17.8,  
AYTS\_OPP=0.2,  
ATT\_OPP=38,  
TD\_OPP=1.33,  
INT\_OPP=1.33,  
COMP\_OPP=58.2,  
EFF\_OPP=3.16,  
EM\_OPP=3.49,  
TLOS\_OPP=2.97,  
AVG\_OPP=6,  
CUSH\_OPP=6.4,  
SEP\_OPP=2.96,  
TAY\_OPP=9.66,  
CTCH\_OPP=62.22,  
YACR\_OPP=3.06, Week = 17  
)

#predictions   
  
# Match Up predictions   
LAC\_P1<-predict(IRF1,newdata=LAC\_MIA\_MU)  
LAC\_P2<-predict(IRF2,newdata=LAC\_MIA\_MU)  
LAC\_P3<-predict(IRF3,newdata=LAC\_MIA\_MU)  
LAC\_P4<-predict(IRF4,newdata=LAC\_MIA\_MU)  
LAC\_P5<-predict(IRF5,newdata=LAC\_MIA\_MU)  
LAC\_P6<-predict(IRF6,newdata=LAC\_MIA\_MU)  
LAC\_P7<-predict(IRF7,newdata=LAC\_MIA\_MU)  
LAC\_P8<-predict(IRF8,newdata=LAC\_MIA\_MU)  
LAC\_P9<-predict(IRF9,newdata=LAC\_MIA\_MU)  
LAC\_P10<-predict(IRF10,newdata=LAC\_MIA\_MU)  
LAC\_P11<-predict(IRF11,newdata=LAC\_MIA\_MU)  
LAC\_P12<-predict(IRF12,newdata=LAC\_MIA\_MU)  
LAC\_P13<-predict(IRF13,newdata=LAC\_MIA\_MU)  
LAC\_P14<-predict(IRF14,newdata=LAC\_MIA\_MU)  
LAC\_P15<-predict(IRF15,newdata=LAC\_MIA\_MU)  
LAC\_P16<-predict(IRF16,newdata=LAC\_MIA\_MU)  
LAC\_P17<-predict(IRF17,newdata=LAC\_MIA\_MU)  
LAC\_P18<-predict(IRF18,newdata=LAC\_MIA\_MU)  
LAC\_P19<-predict(IRF19,newdata=LAC\_MIA\_MU)  
LAC\_P20<-predict(IRF20,newdata=LAC\_MIA\_MU)  
LAC\_P21<-predict(IRF21,newdata=LAC\_MIA\_MU)  
MIA\_P1<-predict(IRF1,newdata=MIA\_LAC\_MU)  
MIA\_P2<-predict(IRF2,newdata=MIA\_LAC\_MU)  
MIA\_P3<-predict(IRF3,newdata=MIA\_LAC\_MU)  
MIA\_P4<-predict(IRF4,newdata=MIA\_LAC\_MU)  
MIA\_P5<-predict(IRF5,newdata=MIA\_LAC\_MU)  
MIA\_P6<-predict(IRF6,newdata=MIA\_LAC\_MU)  
MIA\_P7<-predict(IRF7,newdata=MIA\_LAC\_MU)  
MIA\_P8<-predict(IRF8,newdata=MIA\_LAC\_MU)  
MIA\_P9<-predict(IRF9,newdata=MIA\_LAC\_MU)  
MIA\_P10<-predict(IRF10,newdata=MIA\_LAC\_MU)  
MIA\_P11<-predict(IRF11,newdata=MIA\_LAC\_MU)  
MIA\_P12<-predict(IRF12,newdata=MIA\_LAC\_MU)  
MIA\_P13<-predict(IRF13,newdata=MIA\_LAC\_MU)  
MIA\_P14<-predict(IRF14,newdata=MIA\_LAC\_MU)  
MIA\_P15<-predict(IRF15,newdata=MIA\_LAC\_MU)  
MIA\_P16<-predict(IRF16,newdata=MIA\_LAC\_MU)  
MIA\_P17<-predict(IRF17,newdata=MIA\_LAC\_MU)  
MIA\_P18<-predict(IRF18,newdata=MIA\_LAC\_MU)  
MIA\_P19<-predict(IRF19,newdata=MIA\_LAC\_MU)  
MIA\_P20<-predict(IRF20,newdata=MIA\_LAC\_MU)  
MIA\_P21<-predict(IRF21,newdata=MIA\_LAC\_MU)  
DAL\_P1<-predict(IRF1,newdata=DAL\_NYG\_MU)  
DAL\_P2<-predict(IRF2,newdata=DAL\_NYG\_MU)  
DAL\_P3<-predict(IRF3,newdata=DAL\_NYG\_MU)  
DAL\_P4<-predict(IRF4,newdata=DAL\_NYG\_MU)  
DAL\_P5<-predict(IRF5,newdata=DAL\_NYG\_MU)  
DAL\_P6<-predict(IRF6,newdata=DAL\_NYG\_MU)  
DAL\_P7<-predict(IRF7,newdata=DAL\_NYG\_MU)  
DAL\_P8<-predict(IRF8,newdata=DAL\_NYG\_MU)  
DAL\_P9<-predict(IRF9,newdata=DAL\_NYG\_MU)  
DAL\_P10<-predict(IRF10,newdata=DAL\_NYG\_MU)  
DAL\_P11<-predict(IRF11,newdata=DAL\_NYG\_MU)  
DAL\_P12<-predict(IRF12,newdata=DAL\_NYG\_MU)  
DAL\_P13<-predict(IRF13,newdata=DAL\_NYG\_MU)  
DAL\_P14<-predict(IRF14,newdata=DAL\_NYG\_MU)  
DAL\_P15<-predict(IRF15,newdata=DAL\_NYG\_MU)  
DAL\_P16<-predict(IRF16,newdata=DAL\_NYG\_MU)  
DAL\_P17<-predict(IRF17,newdata=DAL\_NYG\_MU)  
DAL\_P18<-predict(IRF18,newdata=DAL\_NYG\_MU)  
DAL\_P19<-predict(IRF19,newdata=DAL\_NYG\_MU)  
DAL\_P20<-predict(IRF20,newdata=DAL\_NYG\_MU)  
DAL\_P21<-predict(IRF21,newdata=DAL\_NYG\_MU)  
NYG\_P1<-predict(IRF1,newdata=NYG\_DAL\_MU)  
NYG\_P2<-predict(IRF2,newdata=NYG\_DAL\_MU)  
NYG\_P3<-predict(IRF3,newdata=NYG\_DAL\_MU)  
NYG\_P4<-predict(IRF4,newdata=NYG\_DAL\_MU)  
NYG\_P5<-predict(IRF5,newdata=NYG\_DAL\_MU)  
NYG\_P6<-predict(IRF6,newdata=NYG\_DAL\_MU)  
NYG\_P7<-predict(IRF7,newdata=NYG\_DAL\_MU)  
NYG\_P8<-predict(IRF8,newdata=NYG\_DAL\_MU)  
NYG\_P9<-predict(IRF9,newdata=NYG\_DAL\_MU)  
NYG\_P10<-predict(IRF10,newdata=NYG\_DAL\_MU)  
NYG\_P11<-predict(IRF11,newdata=NYG\_DAL\_MU)  
NYG\_P12<-predict(IRF12,newdata=NYG\_DAL\_MU)  
NYG\_P13<-predict(IRF13,newdata=NYG\_DAL\_MU)  
NYG\_P14<-predict(IRF14,newdata=NYG\_DAL\_MU)  
NYG\_P15<-predict(IRF15,newdata=NYG\_DAL\_MU)  
NYG\_P16<-predict(IRF16,newdata=NYG\_DAL\_MU)  
NYG\_P17<-predict(IRF17,newdata=NYG\_DAL\_MU)  
NYG\_P18<-predict(IRF18,newdata=NYG\_DAL\_MU)  
NYG\_P19<-predict(IRF19,newdata=NYG\_DAL\_MU)  
NYG\_P20<-predict(IRF20,newdata=NYG\_DAL\_MU)  
NYG\_P21<-predict(IRF21,newdata=NYG\_DAL\_MU)  
HOU\_P1<-predict(IRF1,newdata=HOU\_NE\_MU)  
HOU\_P2<-predict(IRF2,newdata=HOU\_NE\_MU)  
HOU\_P3<-predict(IRF3,newdata=HOU\_NE\_MU)  
HOU\_P4<-predict(IRF4,newdata=HOU\_NE\_MU)  
HOU\_P5<-predict(IRF5,newdata=HOU\_NE\_MU)  
HOU\_P6<-predict(IRF6,newdata=HOU\_NE\_MU)  
HOU\_P7<-predict(IRF7,newdata=HOU\_NE\_MU)  
HOU\_P8<-predict(IRF8,newdata=HOU\_NE\_MU)  
HOU\_P9<-predict(IRF9,newdata=HOU\_NE\_MU)  
HOU\_P10<-predict(IRF10,newdata=HOU\_NE\_MU)  
HOU\_P11<-predict(IRF11,newdata=HOU\_NE\_MU)  
HOU\_P12<-predict(IRF12,newdata=HOU\_NE\_MU)  
HOU\_P13<-predict(IRF13,newdata=HOU\_NE\_MU)  
HOU\_P14<-predict(IRF14,newdata=HOU\_NE\_MU)  
HOU\_P15<-predict(IRF15,newdata=HOU\_NE\_MU)  
HOU\_P16<-predict(IRF16,newdata=HOU\_NE\_MU)  
HOU\_P17<-predict(IRF17,newdata=HOU\_NE\_MU)  
HOU\_P18<-predict(IRF18,newdata=HOU\_NE\_MU)  
HOU\_P19<-predict(IRF19,newdata=HOU\_NE\_MU)  
HOU\_P20<-predict(IRF20,newdata=HOU\_NE\_MU)  
HOU\_P21<-predict(IRF21,newdata=HOU\_NE\_MU)  
NE\_P1<-predict(IRF1,newdata=NE\_HOU\_MU)  
NE\_P2<-predict(IRF2,newdata=NE\_HOU\_MU)  
NE\_P3<-predict(IRF3,newdata=NE\_HOU\_MU)  
NE\_P4<-predict(IRF4,newdata=NE\_HOU\_MU)  
NE\_P5<-predict(IRF5,newdata=NE\_HOU\_MU)  
NE\_P6<-predict(IRF6,newdata=NE\_HOU\_MU)  
NE\_P7<-predict(IRF7,newdata=NE\_HOU\_MU)  
NE\_P8<-predict(IRF8,newdata=NE\_HOU\_MU)  
NE\_P9<-predict(IRF9,newdata=NE\_HOU\_MU)  
NE\_P10<-predict(IRF10,newdata=NE\_HOU\_MU)  
NE\_P11<-predict(IRF11,newdata=NE\_HOU\_MU)  
NE\_P12<-predict(IRF12,newdata=NE\_HOU\_MU)  
NE\_P13<-predict(IRF13,newdata=NE\_HOU\_MU)  
NE\_P14<-predict(IRF14,newdata=NE\_HOU\_MU)  
NE\_P15<-predict(IRF15,newdata=NE\_HOU\_MU)  
NE\_P16<-predict(IRF16,newdata=NE\_HOU\_MU)  
NE\_P17<-predict(IRF17,newdata=NE\_HOU\_MU)  
NE\_P18<-predict(IRF18,newdata=NE\_HOU\_MU)  
NE\_P19<-predict(IRF19,newdata=NE\_HOU\_MU)  
NE\_P20<-predict(IRF20,newdata=NE\_HOU\_MU)  
NE\_P21<-predict(IRF21,newdata=NE\_HOU\_MU)  
NO\_P1<-predict(IRF1,newdata=NO\_TB\_MU)  
NO\_P2<-predict(IRF2,newdata=NO\_TB\_MU)  
NO\_P3<-predict(IRF3,newdata=NO\_TB\_MU)  
NO\_P4<-predict(IRF4,newdata=NO\_TB\_MU)  
NO\_P5<-predict(IRF5,newdata=NO\_TB\_MU)  
NO\_P6<-predict(IRF6,newdata=NO\_TB\_MU)  
NO\_P7<-predict(IRF7,newdata=NO\_TB\_MU)  
NO\_P8<-predict(IRF8,newdata=NO\_TB\_MU)  
NO\_P9<-predict(IRF9,newdata=NO\_TB\_MU)  
NO\_P10<-predict(IRF10,newdata=NO\_TB\_MU)  
NO\_P11<-predict(IRF11,newdata=NO\_TB\_MU)  
NO\_P12<-predict(IRF12,newdata=NO\_TB\_MU)  
NO\_P13<-predict(IRF13,newdata=NO\_TB\_MU)  
NO\_P14<-predict(IRF14,newdata=NO\_TB\_MU)  
NO\_P15<-predict(IRF15,newdata=NO\_TB\_MU)  
NO\_P16<-predict(IRF16,newdata=NO\_TB\_MU)  
NO\_P17<-predict(IRF17,newdata=NO\_TB\_MU)  
NO\_P18<-predict(IRF18,newdata=NO\_TB\_MU)  
NO\_P19<-predict(IRF19,newdata=NO\_TB\_MU)  
NO\_P20<-predict(IRF20,newdata=NO\_TB\_MU)  
NO\_P21<-predict(IRF21,newdata=NO\_TB\_MU)  
TB\_P1<-predict(IRF1,newdata=TB\_NO\_MU)  
TB\_P2<-predict(IRF2,newdata=TB\_NO\_MU)  
TB\_P3<-predict(IRF3,newdata=TB\_NO\_MU)  
TB\_P4<-predict(IRF4,newdata=TB\_NO\_MU)  
TB\_P5<-predict(IRF5,newdata=TB\_NO\_MU)  
TB\_P6<-predict(IRF6,newdata=TB\_NO\_MU)  
TB\_P7<-predict(IRF7,newdata=TB\_NO\_MU)  
TB\_P8<-predict(IRF8,newdata=TB\_NO\_MU)  
TB\_P9<-predict(IRF9,newdata=TB\_NO\_MU)  
TB\_P10<-predict(IRF10,newdata=TB\_NO\_MU)  
TB\_P11<-predict(IRF11,newdata=TB\_NO\_MU)  
TB\_P12<-predict(IRF12,newdata=TB\_NO\_MU)  
TB\_P13<-predict(IRF13,newdata=TB\_NO\_MU)  
TB\_P14<-predict(IRF14,newdata=TB\_NO\_MU)  
TB\_P15<-predict(IRF15,newdata=TB\_NO\_MU)  
TB\_P16<-predict(IRF16,newdata=TB\_NO\_MU)  
TB\_P17<-predict(IRF17,newdata=TB\_NO\_MU)  
TB\_P18<-predict(IRF18,newdata=TB\_NO\_MU)  
TB\_P19<-predict(IRF19,newdata=TB\_NO\_MU)  
TB\_P20<-predict(IRF20,newdata=TB\_NO\_MU)  
TB\_P21<-predict(IRF21,newdata=TB\_NO\_MU)  
OAK\_P1<-predict(IRF1,newdata=OAK\_HOU\_MU)  
OAK\_P2<-predict(IRF2,newdata=OAK\_HOU\_MU)  
OAK\_P3<-predict(IRF3,newdata=OAK\_HOU\_MU)  
OAK\_P4<-predict(IRF4,newdata=OAK\_HOU\_MU)  
OAK\_P5<-predict(IRF5,newdata=OAK\_HOU\_MU)  
OAK\_P6<-predict(IRF6,newdata=OAK\_HOU\_MU)  
OAK\_P7<-predict(IRF7,newdata=OAK\_HOU\_MU)  
OAK\_P8<-predict(IRF8,newdata=OAK\_HOU\_MU)  
OAK\_P9<-predict(IRF9,newdata=OAK\_HOU\_MU)  
OAK\_P10<-predict(IRF10,newdata=OAK\_HOU\_MU)  
OAK\_P11<-predict(IRF11,newdata=OAK\_HOU\_MU)  
OAK\_P12<-predict(IRF12,newdata=OAK\_HOU\_MU)  
OAK\_P13<-predict(IRF13,newdata=OAK\_HOU\_MU)  
OAK\_P14<-predict(IRF14,newdata=OAK\_HOU\_MU)  
OAK\_P15<-predict(IRF15,newdata=OAK\_HOU\_MU)  
OAK\_P16<-predict(IRF16,newdata=OAK\_HOU\_MU)  
OAK\_P17<-predict(IRF17,newdata=OAK\_HOU\_MU)  
OAK\_P18<-predict(IRF18,newdata=OAK\_HOU\_MU)  
OAK\_P19<-predict(IRF19,newdata=OAK\_HOU\_MU)  
OAK\_P20<-predict(IRF20,newdata=OAK\_HOU\_MU)  
OAK\_P21<-predict(IRF21,newdata=OAK\_HOU\_MU)  
SF\_P1<-predict(IRF1,newdata=SF\_SEA\_MU)  
SF\_P2<-predict(IRF2,newdata=SF\_SEA\_MU)  
SF\_P3<-predict(IRF3,newdata=SF\_SEA\_MU)  
SF\_P4<-predict(IRF4,newdata=SF\_SEA\_MU)  
SF\_P5<-predict(IRF5,newdata=SF\_SEA\_MU)  
SF\_P6<-predict(IRF6,newdata=SF\_SEA\_MU)  
SF\_P7<-predict(IRF7,newdata=SF\_SEA\_MU)  
SF\_P8<-predict(IRF8,newdata=SF\_SEA\_MU)  
SF\_P9<-predict(IRF9,newdata=SF\_SEA\_MU)  
SF\_P10<-predict(IRF10,newdata=SF\_SEA\_MU)  
SF\_P11<-predict(IRF11,newdata=SF\_SEA\_MU)  
SF\_P12<-predict(IRF12,newdata=SF\_SEA\_MU)  
SF\_P13<-predict(IRF13,newdata=SF\_SEA\_MU)  
SF\_P14<-predict(IRF14,newdata=SF\_SEA\_MU)  
SF\_P15<-predict(IRF15,newdata=SF\_SEA\_MU)  
SF\_P16<-predict(IRF16,newdata=SF\_SEA\_MU)  
SF\_P17<-predict(IRF17,newdata=SF\_SEA\_MU)  
SF\_P18<-predict(IRF18,newdata=SF\_SEA\_MU)  
SF\_P19<-predict(IRF19,newdata=SF\_SEA\_MU)  
SF\_P20<-predict(IRF20,newdata=SF\_SEA\_MU)  
SF\_P21<-predict(IRF21,newdata=SF\_SEA\_MU)  
SEA\_P1<-predict(IRF1,newdata=SEA\_SF\_MU)  
SEA\_P2<-predict(IRF2,newdata=SEA\_SF\_MU)  
SEA\_P3<-predict(IRF3,newdata=SEA\_SF\_MU)  
SEA\_P4<-predict(IRF4,newdata=SEA\_SF\_MU)  
SEA\_P5<-predict(IRF5,newdata=SEA\_SF\_MU)  
SEA\_P6<-predict(IRF6,newdata=SEA\_SF\_MU)  
SEA\_P7<-predict(IRF7,newdata=SEA\_SF\_MU)  
SEA\_P8<-predict(IRF8,newdata=SEA\_SF\_MU)  
SEA\_P9<-predict(IRF9,newdata=SEA\_SF\_MU)  
SEA\_P10<-predict(IRF10,newdata=SEA\_SF\_MU)  
SEA\_P11<-predict(IRF11,newdata=SEA\_SF\_MU)  
SEA\_P12<-predict(IRF12,newdata=SEA\_SF\_MU)  
SEA\_P13<-predict(IRF13,newdata=SEA\_SF\_MU)  
SEA\_P14<-predict(IRF14,newdata=SEA\_SF\_MU)  
SEA\_P15<-predict(IRF15,newdata=SEA\_SF\_MU)  
SEA\_P16<-predict(IRF16,newdata=SEA\_SF\_MU)  
SEA\_P17<-predict(IRF17,newdata=SEA\_SF\_MU)  
SEA\_P18<-predict(IRF18,newdata=SEA\_SF\_MU)  
SEA\_P19<-predict(IRF19,newdata=SEA\_SF\_MU)  
SEA\_P20<-predict(IRF20,newdata=SEA\_SF\_MU)  
SEA\_P21<-predict(IRF21,newdata=SEA\_SF\_MU)  
  
  
  
  
  
# Own team Predictions   
LAC\_OP1<-predict(ARFM1,newdata=LAC\_SV1)  
LAC\_OP2<-predict(ARFM2,newdata=LAC\_SV1)  
LAC\_OP3<-predict(ARFM3,newdata=LAC\_SV1)  
LAC\_OP4<-predict(ARFM4,newdata=LAC\_SV1)  
LAC\_OP5<-predict(ARFM5,newdata=LAC\_SV1)  
LAC\_OP6<-predict(ARFM6,newdata=LAC\_SV1)  
LAC\_OP7<-predict(ARFM7,newdata=LAC\_SV1)  
LAC\_OP8<-predict(ARFM8,newdata=LAC\_SV1)  
LAC\_OP9<-predict(ARFM9,newdata=LAC\_SV1)  
LAC\_OP10<-predict(ARFM10,newdata=LAC\_SV1)  
LAC\_OP11<-predict(ARFM11,newdata=LAC\_SV1)  
LAC\_OP12<-predict(ARFM12,newdata=LAC\_SV1)  
LAC\_OP13<-predict(ARFM13,newdata=LAC\_SV1)  
LAC\_OP14<-predict(ARFM14,newdata=LAC\_SV1)  
LAC\_OP15<-predict(ARFM15,newdata=LAC\_SV1)  
LAC\_OP16<-predict(ARFM16,newdata=LAC\_SV1)  
LAC\_OP17<-predict(ARFM17,newdata=LAC\_SV1)  
LAC\_OP18<-predict(ARFM18,newdata=LAC\_SV1)  
LAC\_OP19<-predict(ARFM19,newdata=LAC\_SV1)  
LAC\_OP20<-predict(ARFM20,newdata=LAC\_SV1)  
LAC\_OP21<-predict(ARFM21,newdata=LAC\_SV1)  
LAC\_OP22<-predict(ARFM22,newdata=LAC\_SV1)  
LAC\_OP23<-predict(ARFM23,newdata=LAC\_SV1)  
LAC\_OP24<-predict(ARFM24,newdata=LAC\_SV1)  
LAC\_OP25<-predict(ARFM25,newdata=LAC\_SV1)  
LAC\_OP26<-predict(ARFM26,newdata=LAC\_SV1)  
LAC\_OP27<-predict(ARFM27,newdata=LAC\_SV1)  
LAC\_OP28<-predict(ARFM28,newdata=LAC\_SV1)  
LAC\_OP29<-predict(ARFM29,newdata=LAC\_SV1)  
LAC\_OP30<-predict(ARFM30,newdata=LAC\_SV1)  
LAC\_OP31<-predict(ARFM31,newdata=LAC\_SV1)  
MIA\_OP1<-predict(ARFM1,newdata=MIA\_SV1)  
MIA\_OP2<-predict(ARFM2,newdata=MIA\_SV1)  
MIA\_OP3<-predict(ARFM3,newdata=MIA\_SV1)  
MIA\_OP4<-predict(ARFM4,newdata=MIA\_SV1)  
MIA\_OP5<-predict(ARFM5,newdata=MIA\_SV1)  
MIA\_OP6<-predict(ARFM6,newdata=MIA\_SV1)  
MIA\_OP7<-predict(ARFM7,newdata=MIA\_SV1)  
MIA\_OP8<-predict(ARFM8,newdata=MIA\_SV1)  
MIA\_OP9<-predict(ARFM9,newdata=MIA\_SV1)  
MIA\_OP10<-predict(ARFM10,newdata=MIA\_SV1)  
MIA\_OP11<-predict(ARFM11,newdata=MIA\_SV1)  
MIA\_OP12<-predict(ARFM12,newdata=MIA\_SV1)  
MIA\_OP13<-predict(ARFM13,newdata=MIA\_SV1)  
MIA\_OP14<-predict(ARFM14,newdata=MIA\_SV1)  
MIA\_OP15<-predict(ARFM15,newdata=MIA\_SV1)  
MIA\_OP16<-predict(ARFM16,newdata=MIA\_SV1)  
MIA\_OP17<-predict(ARFM17,newdata=MIA\_SV1)  
MIA\_OP18<-predict(ARFM18,newdata=MIA\_SV1)  
MIA\_OP19<-predict(ARFM19,newdata=MIA\_SV1)  
MIA\_OP20<-predict(ARFM20,newdata=MIA\_SV1)  
MIA\_OP21<-predict(ARFM21,newdata=MIA\_SV1)  
MIA\_OP22<-predict(ARFM22,newdata=MIA\_SV1)  
MIA\_OP23<-predict(ARFM23,newdata=MIA\_SV1)  
MIA\_OP24<-predict(ARFM24,newdata=MIA\_SV1)  
MIA\_OP25<-predict(ARFM25,newdata=MIA\_SV1)  
MIA\_OP26<-predict(ARFM26,newdata=MIA\_SV1)  
MIA\_OP27<-predict(ARFM27,newdata=MIA\_SV1)  
MIA\_OP28<-predict(ARFM28,newdata=MIA\_SV1)  
MIA\_OP29<-predict(ARFM29,newdata=MIA\_SV1)  
MIA\_OP30<-predict(ARFM30,newdata=MIA\_SV1)  
MIA\_OP31<-predict(ARFM31,newdata=MIA\_SV1)  
DAL\_OP1<-predict(ARFM1,newdata=DAL\_SV1)  
DAL\_OP2<-predict(ARFM2,newdata=DAL\_SV1)  
DAL\_OP3<-predict(ARFM3,newdata=DAL\_SV1)  
DAL\_OP4<-predict(ARFM4,newdata=DAL\_SV1)  
DAL\_OP5<-predict(ARFM5,newdata=DAL\_SV1)  
DAL\_OP6<-predict(ARFM6,newdata=DAL\_SV1)  
DAL\_OP7<-predict(ARFM7,newdata=DAL\_SV1)  
DAL\_OP8<-predict(ARFM8,newdata=DAL\_SV1)  
DAL\_OP9<-predict(ARFM9,newdata=DAL\_SV1)  
DAL\_OP10<-predict(ARFM10,newdata=DAL\_SV1)  
DAL\_OP11<-predict(ARFM11,newdata=DAL\_SV1)  
DAL\_OP12<-predict(ARFM12,newdata=DAL\_SV1)  
DAL\_OP13<-predict(ARFM13,newdata=DAL\_SV1)  
DAL\_OP14<-predict(ARFM14,newdata=DAL\_SV1)  
DAL\_OP15<-predict(ARFM15,newdata=DAL\_SV1)  
DAL\_OP16<-predict(ARFM16,newdata=DAL\_SV1)  
DAL\_OP17<-predict(ARFM17,newdata=DAL\_SV1)  
DAL\_OP18<-predict(ARFM18,newdata=DAL\_SV1)  
DAL\_OP19<-predict(ARFM19,newdata=DAL\_SV1)  
DAL\_OP20<-predict(ARFM20,newdata=DAL\_SV1)  
DAL\_OP21<-predict(ARFM21,newdata=DAL\_SV1)  
DAL\_OP22<-predict(ARFM22,newdata=DAL\_SV1)  
DAL\_OP23<-predict(ARFM23,newdata=DAL\_SV1)  
DAL\_OP24<-predict(ARFM24,newdata=DAL\_SV1)  
DAL\_OP25<-predict(ARFM25,newdata=DAL\_SV1)  
DAL\_OP26<-predict(ARFM26,newdata=DAL\_SV1)  
DAL\_OP27<-predict(ARFM27,newdata=DAL\_SV1)  
DAL\_OP28<-predict(ARFM28,newdata=DAL\_SV1)  
DAL\_OP29<-predict(ARFM29,newdata=DAL\_SV1)  
DAL\_OP30<-predict(ARFM30,newdata=DAL\_SV1)  
DAL\_OP31<-predict(ARFM31,newdata=DAL\_SV1)  
NYG\_OP1<-predict(ARFM1,newdata=NYG\_SV1)  
NYG\_OP2<-predict(ARFM2,newdata=NYG\_SV1)  
NYG\_OP3<-predict(ARFM3,newdata=NYG\_SV1)  
NYG\_OP4<-predict(ARFM4,newdata=NYG\_SV1)  
NYG\_OP5<-predict(ARFM5,newdata=NYG\_SV1)  
NYG\_OP6<-predict(ARFM6,newdata=NYG\_SV1)  
NYG\_OP7<-predict(ARFM7,newdata=NYG\_SV1)  
NYG\_OP8<-predict(ARFM8,newdata=NYG\_SV1)  
NYG\_OP9<-predict(ARFM9,newdata=NYG\_SV1)  
NYG\_OP10<-predict(ARFM10,newdata=NYG\_SV1)  
NYG\_OP11<-predict(ARFM11,newdata=NYG\_SV1)  
NYG\_OP12<-predict(ARFM12,newdata=NYG\_SV1)  
NYG\_OP13<-predict(ARFM13,newdata=NYG\_SV1)  
NYG\_OP14<-predict(ARFM14,newdata=NYG\_SV1)  
NYG\_OP15<-predict(ARFM15,newdata=NYG\_SV1)  
NYG\_OP16<-predict(ARFM16,newdata=NYG\_SV1)  
NYG\_OP17<-predict(ARFM17,newdata=NYG\_SV1)  
NYG\_OP18<-predict(ARFM18,newdata=NYG\_SV1)  
NYG\_OP19<-predict(ARFM19,newdata=NYG\_SV1)  
NYG\_OP20<-predict(ARFM20,newdata=NYG\_SV1)  
NYG\_OP21<-predict(ARFM21,newdata=NYG\_SV1)  
NYG\_OP22<-predict(ARFM22,newdata=NYG\_SV1)  
NYG\_OP23<-predict(ARFM23,newdata=NYG\_SV1)  
NYG\_OP24<-predict(ARFM24,newdata=NYG\_SV1)  
NYG\_OP25<-predict(ARFM25,newdata=NYG\_SV1)  
NYG\_OP26<-predict(ARFM26,newdata=NYG\_SV1)  
NYG\_OP27<-predict(ARFM27,newdata=NYG\_SV1)  
NYG\_OP28<-predict(ARFM28,newdata=NYG\_SV1)  
NYG\_OP29<-predict(ARFM29,newdata=NYG\_SV1)  
NYG\_OP30<-predict(ARFM30,newdata=NYG\_SV1)  
NYG\_OP31<-predict(ARFM31,newdata=NYG\_SV1)  
HOU\_OP1<-predict(ARFM1,newdata=HOU\_SV1)  
HOU\_OP2<-predict(ARFM2,newdata=HOU\_SV1)  
HOU\_OP3<-predict(ARFM3,newdata=HOU\_SV1)  
HOU\_OP4<-predict(ARFM4,newdata=HOU\_SV1)  
HOU\_OP5<-predict(ARFM5,newdata=HOU\_SV1)  
HOU\_OP6<-predict(ARFM6,newdata=HOU\_SV1)  
HOU\_OP7<-predict(ARFM7,newdata=HOU\_SV1)  
HOU\_OP8<-predict(ARFM8,newdata=HOU\_SV1)  
HOU\_OP9<-predict(ARFM9,newdata=HOU\_SV1)  
HOU\_OP10<-predict(ARFM10,newdata=HOU\_SV1)  
HOU\_OP11<-predict(ARFM11,newdata=HOU\_SV1)  
HOU\_OP12<-predict(ARFM12,newdata=HOU\_SV1)  
HOU\_OP13<-predict(ARFM13,newdata=HOU\_SV1)  
HOU\_OP14<-predict(ARFM14,newdata=HOU\_SV1)  
HOU\_OP15<-predict(ARFM15,newdata=HOU\_SV1)  
HOU\_OP16<-predict(ARFM16,newdata=HOU\_SV1)  
HOU\_OP17<-predict(ARFM17,newdata=HOU\_SV1)  
HOU\_OP18<-predict(ARFM18,newdata=HOU\_SV1)  
HOU\_OP19<-predict(ARFM19,newdata=HOU\_SV1)  
HOU\_OP20<-predict(ARFM20,newdata=HOU\_SV1)  
HOU\_OP21<-predict(ARFM21,newdata=HOU\_SV1)  
HOU\_OP22<-predict(ARFM22,newdata=HOU\_SV1)  
HOU\_OP23<-predict(ARFM23,newdata=HOU\_SV1)  
HOU\_OP24<-predict(ARFM24,newdata=HOU\_SV1)  
HOU\_OP25<-predict(ARFM25,newdata=HOU\_SV1)  
HOU\_OP26<-predict(ARFM26,newdata=HOU\_SV1)  
HOU\_OP27<-predict(ARFM27,newdata=HOU\_SV1)  
HOU\_OP28<-predict(ARFM28,newdata=HOU\_SV1)  
HOU\_OP29<-predict(ARFM29,newdata=HOU\_SV1)  
HOU\_OP30<-predict(ARFM30,newdata=HOU\_SV1)  
HOU\_OP31<-predict(ARFM31,newdata=HOU\_SV1)  
NE\_OP1<-predict(ARFM1,newdata=NE\_SV1)  
NE\_OP2<-predict(ARFM2,newdata=NE\_SV1)  
NE\_OP3<-predict(ARFM3,newdata=NE\_SV1)  
NE\_OP4<-predict(ARFM4,newdata=NE\_SV1)  
NE\_OP5<-predict(ARFM5,newdata=NE\_SV1)  
NE\_OP6<-predict(ARFM6,newdata=NE\_SV1)  
NE\_OP7<-predict(ARFM7,newdata=NE\_SV1)  
NE\_OP8<-predict(ARFM8,newdata=NE\_SV1)  
NE\_OP9<-predict(ARFM9,newdata=NE\_SV1)  
NE\_OP10<-predict(ARFM10,newdata=NE\_SV1)  
NE\_OP11<-predict(ARFM11,newdata=NE\_SV1)  
NE\_OP12<-predict(ARFM12,newdata=NE\_SV1)  
NE\_OP13<-predict(ARFM13,newdata=NE\_SV1)  
NE\_OP14<-predict(ARFM14,newdata=NE\_SV1)  
NE\_OP15<-predict(ARFM15,newdata=NE\_SV1)  
NE\_OP16<-predict(ARFM16,newdata=NE\_SV1)  
NE\_OP17<-predict(ARFM17,newdata=NE\_SV1)  
NE\_OP18<-predict(ARFM18,newdata=NE\_SV1)  
NE\_OP19<-predict(ARFM19,newdata=NE\_SV1)  
NE\_OP20<-predict(ARFM20,newdata=NE\_SV1)  
NE\_OP21<-predict(ARFM21,newdata=NE\_SV1)  
NE\_OP22<-predict(ARFM22,newdata=NE\_SV1)  
NE\_OP23<-predict(ARFM23,newdata=NE\_SV1)  
NE\_OP24<-predict(ARFM24,newdata=NE\_SV1)  
NE\_OP25<-predict(ARFM25,newdata=NE\_SV1)  
NE\_OP26<-predict(ARFM26,newdata=NE\_SV1)  
NE\_OP27<-predict(ARFM27,newdata=NE\_SV1)  
NE\_OP28<-predict(ARFM28,newdata=NE\_SV1)  
NE\_OP29<-predict(ARFM29,newdata=NE\_SV1)  
NE\_OP30<-predict(ARFM30,newdata=NE\_SV1)  
NE\_OP31<-predict(ARFM31,newdata=NE\_SV1)  
NO\_OP1<-predict(ARFM1,newdata=NO\_SV1)  
NO\_OP2<-predict(ARFM2,newdata=NO\_SV1)  
NO\_OP3<-predict(ARFM3,newdata=NO\_SV1)  
NO\_OP4<-predict(ARFM4,newdata=NO\_SV1)  
NO\_OP5<-predict(ARFM5,newdata=NO\_SV1)  
NO\_OP6<-predict(ARFM6,newdata=NO\_SV1)  
NO\_OP7<-predict(ARFM7,newdata=NO\_SV1)  
NO\_OP8<-predict(ARFM8,newdata=NO\_SV1)  
NO\_OP9<-predict(ARFM9,newdata=NO\_SV1)  
NO\_OP10<-predict(ARFM10,newdata=NO\_SV1)  
NO\_OP11<-predict(ARFM11,newdata=NO\_SV1)  
NO\_OP12<-predict(ARFM12,newdata=NO\_SV1)  
NO\_OP13<-predict(ARFM13,newdata=NO\_SV1)  
NO\_OP14<-predict(ARFM14,newdata=NO\_SV1)  
NO\_OP15<-predict(ARFM15,newdata=NO\_SV1)  
NO\_OP16<-predict(ARFM16,newdata=NO\_SV1)  
NO\_OP17<-predict(ARFM17,newdata=NO\_SV1)  
NO\_OP18<-predict(ARFM18,newdata=NO\_SV1)  
NO\_OP19<-predict(ARFM19,newdata=NO\_SV1)  
NO\_OP20<-predict(ARFM20,newdata=NO\_SV1)  
NO\_OP21<-predict(ARFM21,newdata=NO\_SV1)  
NO\_OP22<-predict(ARFM22,newdata=NO\_SV1)  
NO\_OP23<-predict(ARFM23,newdata=NO\_SV1)  
NO\_OP24<-predict(ARFM24,newdata=NO\_SV1)  
NO\_OP25<-predict(ARFM25,newdata=NO\_SV1)  
NO\_OP26<-predict(ARFM26,newdata=NO\_SV1)  
NO\_OP27<-predict(ARFM27,newdata=NO\_SV1)  
NO\_OP28<-predict(ARFM28,newdata=NO\_SV1)  
NO\_OP29<-predict(ARFM29,newdata=NO\_SV1)  
NO\_OP30<-predict(ARFM30,newdata=NO\_SV1)  
NO\_OP31<-predict(ARFM31,newdata=NO\_SV1)  
OAK\_OP1<-predict(ARFM1,newdata=OAK\_SV1)  
OAK\_OP2<-predict(ARFM2,newdata=OAK\_SV1)  
OAK\_OP3<-predict(ARFM3,newdata=OAK\_SV1)  
OAK\_OP4<-predict(ARFM4,newdata=OAK\_SV1)  
OAK\_OP5<-predict(ARFM5,newdata=OAK\_SV1)  
OAK\_OP6<-predict(ARFM6,newdata=OAK\_SV1)  
OAK\_OP7<-predict(ARFM7,newdata=OAK\_SV1)  
OAK\_OP8<-predict(ARFM8,newdata=OAK\_SV1)  
OAK\_OP9<-predict(ARFM9,newdata=OAK\_SV1)  
OAK\_OP10<-predict(ARFM10,newdata=OAK\_SV1)  
OAK\_OP11<-predict(ARFM11,newdata=OAK\_SV1)  
OAK\_OP12<-predict(ARFM12,newdata=OAK\_SV1)  
OAK\_OP13<-predict(ARFM13,newdata=OAK\_SV1)  
OAK\_OP14<-predict(ARFM14,newdata=OAK\_SV1)  
OAK\_OP15<-predict(ARFM15,newdata=OAK\_SV1)  
OAK\_OP16<-predict(ARFM16,newdata=OAK\_SV1)  
OAK\_OP17<-predict(ARFM17,newdata=OAK\_SV1)  
OAK\_OP18<-predict(ARFM18,newdata=OAK\_SV1)  
OAK\_OP19<-predict(ARFM19,newdata=OAK\_SV1)  
OAK\_OP20<-predict(ARFM20,newdata=OAK\_SV1)  
OAK\_OP21<-predict(ARFM21,newdata=OAK\_SV1)  
OAK\_OP22<-predict(ARFM22,newdata=OAK\_SV1)  
OAK\_OP23<-predict(ARFM23,newdata=OAK\_SV1)  
OAK\_OP24<-predict(ARFM24,newdata=OAK\_SV1)  
OAK\_OP25<-predict(ARFM25,newdata=OAK\_SV1)  
OAK\_OP26<-predict(ARFM26,newdata=OAK\_SV1)  
OAK\_OP27<-predict(ARFM27,newdata=OAK\_SV1)  
OAK\_OP28<-predict(ARFM28,newdata=OAK\_SV1)  
OAK\_OP29<-predict(ARFM29,newdata=OAK\_SV1)  
OAK\_OP30<-predict(ARFM30,newdata=OAK\_SV1)  
OAK\_OP31<-predict(ARFM31,newdata=OAK\_SV1)  
SEA\_OP1<-predict(ARFM1,newdata=SEA\_SV1)  
SEA\_OP2<-predict(ARFM2,newdata=SEA\_SV1)  
SEA\_OP3<-predict(ARFM3,newdata=SEA\_SV1)  
SEA\_OP4<-predict(ARFM4,newdata=SEA\_SV1)  
SEA\_OP5<-predict(ARFM5,newdata=SEA\_SV1)  
SEA\_OP6<-predict(ARFM6,newdata=SEA\_SV1)  
SEA\_OP7<-predict(ARFM7,newdata=SEA\_SV1)  
SEA\_OP8<-predict(ARFM8,newdata=SEA\_SV1)  
SEA\_OP9<-predict(ARFM9,newdata=SEA\_SV1)  
SEA\_OP10<-predict(ARFM10,newdata=SEA\_SV1)  
SEA\_OP11<-predict(ARFM11,newdata=SEA\_SV1)  
SEA\_OP12<-predict(ARFM12,newdata=SEA\_SV1)  
SEA\_OP13<-predict(ARFM13,newdata=SEA\_SV1)  
SEA\_OP14<-predict(ARFM14,newdata=SEA\_SV1)  
SEA\_OP15<-predict(ARFM15,newdata=SEA\_SV1)  
SEA\_OP16<-predict(ARFM16,newdata=SEA\_SV1)  
SEA\_OP17<-predict(ARFM17,newdata=SEA\_SV1)  
SEA\_OP18<-predict(ARFM18,newdata=SEA\_SV1)  
SEA\_OP19<-predict(ARFM19,newdata=SEA\_SV1)  
SEA\_OP20<-predict(ARFM20,newdata=SEA\_SV1)  
SEA\_OP21<-predict(ARFM21,newdata=SEA\_SV1)  
SEA\_OP22<-predict(ARFM22,newdata=SEA\_SV1)  
SEA\_OP23<-predict(ARFM23,newdata=SEA\_SV1)  
SEA\_OP24<-predict(ARFM24,newdata=SEA\_SV1)  
SEA\_OP25<-predict(ARFM25,newdata=SEA\_SV1)  
SEA\_OP26<-predict(ARFM26,newdata=SEA\_SV1)  
SEA\_OP27<-predict(ARFM27,newdata=SEA\_SV1)  
SEA\_OP28<-predict(ARFM28,newdata=SEA\_SV1)  
SEA\_OP29<-predict(ARFM29,newdata=SEA\_SV1)  
SEA\_OP30<-predict(ARFM30,newdata=SEA\_SV1)  
SEA\_OP31<-predict(ARFM31,newdata=SEA\_SV1)  
TB\_OP1<-predict(ARFM1,newdata=TB\_SV1)  
TB\_OP2<-predict(ARFM2,newdata=TB\_SV1)  
TB\_OP3<-predict(ARFM3,newdata=TB\_SV1)  
TB\_OP4<-predict(ARFM4,newdata=TB\_SV1)  
TB\_OP5<-predict(ARFM5,newdata=TB\_SV1)  
TB\_OP6<-predict(ARFM6,newdata=TB\_SV1)  
TB\_OP7<-predict(ARFM7,newdata=TB\_SV1)  
TB\_OP8<-predict(ARFM8,newdata=TB\_SV1)  
TB\_OP9<-predict(ARFM9,newdata=TB\_SV1)  
TB\_OP10<-predict(ARFM10,newdata=TB\_SV1)  
TB\_OP11<-predict(ARFM11,newdata=TB\_SV1)  
TB\_OP12<-predict(ARFM12,newdata=TB\_SV1)  
TB\_OP13<-predict(ARFM13,newdata=TB\_SV1)  
TB\_OP14<-predict(ARFM14,newdata=TB\_SV1)  
TB\_OP15<-predict(ARFM15,newdata=TB\_SV1)  
TB\_OP16<-predict(ARFM16,newdata=TB\_SV1)  
TB\_OP17<-predict(ARFM17,newdata=TB\_SV1)  
TB\_OP18<-predict(ARFM18,newdata=TB\_SV1)  
TB\_OP19<-predict(ARFM19,newdata=TB\_SV1)  
TB\_OP20<-predict(ARFM20,newdata=TB\_SV1)  
TB\_OP21<-predict(ARFM21,newdata=TB\_SV1)  
TB\_OP22<-predict(ARFM22,newdata=TB\_SV1)  
TB\_OP23<-predict(ARFM23,newdata=TB\_SV1)  
TB\_OP24<-predict(ARFM24,newdata=TB\_SV1)  
TB\_OP25<-predict(ARFM25,newdata=TB\_SV1)  
TB\_OP26<-predict(ARFM26,newdata=TB\_SV1)  
TB\_OP27<-predict(ARFM27,newdata=TB\_SV1)  
TB\_OP28<-predict(ARFM28,newdata=TB\_SV1)  
TB\_OP29<-predict(ARFM29,newdata=TB\_SV1)  
TB\_OP30<-predict(ARFM30,newdata=TB\_SV1)  
TB\_OP31<-predict(ARFM31,newdata=TB\_SV1)  
SF\_OP1<-predict(ARFM1,newdata=SF\_SV1)  
SF\_OP2<-predict(ARFM2,newdata=SF\_SV1)  
SF\_OP3<-predict(ARFM3,newdata=SF\_SV1)  
SF\_OP4<-predict(ARFM4,newdata=SF\_SV1)  
SF\_OP5<-predict(ARFM5,newdata=SF\_SV1)  
SF\_OP6<-predict(ARFM6,newdata=SF\_SV1)  
SF\_OP7<-predict(ARFM7,newdata=SF\_SV1)  
SF\_OP8<-predict(ARFM8,newdata=SF\_SV1)  
SF\_OP9<-predict(ARFM9,newdata=SF\_SV1)  
SF\_OP10<-predict(ARFM10,newdata=SF\_SV1)  
SF\_OP11<-predict(ARFM11,newdata=SF\_SV1)  
SF\_OP12<-predict(ARFM12,newdata=SF\_SV1)  
SF\_OP13<-predict(ARFM13,newdata=SF\_SV1)  
SF\_OP14<-predict(ARFM14,newdata=SF\_SV1)  
SF\_OP15<-predict(ARFM15,newdata=SF\_SV1)  
SF\_OP16<-predict(ARFM16,newdata=SF\_SV1)  
SF\_OP17<-predict(ARFM17,newdata=SF\_SV1)  
SF\_OP18<-predict(ARFM18,newdata=SF\_SV1)  
SF\_OP19<-predict(ARFM19,newdata=SF\_SV1)  
SF\_OP20<-predict(ARFM20,newdata=SF\_SV1)  
SF\_OP21<-predict(ARFM21,newdata=SF\_SV1)  
SF\_OP22<-predict(ARFM22,newdata=SF\_SV1)  
SF\_OP23<-predict(ARFM23,newdata=SF\_SV1)  
SF\_OP24<-predict(ARFM24,newdata=SF\_SV1)  
SF\_OP25<-predict(ARFM25,newdata=SF\_SV1)  
SF\_OP26<-predict(ARFM26,newdata=SF\_SV1)  
SF\_OP27<-predict(ARFM27,newdata=SF\_SV1)  
SF\_OP28<-predict(ARFM28,newdata=SF\_SV1)  
SF\_OP29<-predict(ARFM29,newdata=SF\_SV1)  
SF\_OP30<-predict(ARFM30,newdata=SF\_SV1)  
SF\_OP31<-predict(ARFM31,newdata=SF\_SV1)

NESB\_P1<-predict(IRF1,newdata=NE\_SB)  
NESB\_P2<-predict(IRF2,newdata=NE\_SB)  
NESB\_P3<-predict(IRF3,newdata=NE\_SB)  
NESB\_P4<-predict(IRF4,newdata=NE\_SB)  
NESB\_P5<-predict(IRF5,newdata=NE\_SB)  
NESB\_P6<-predict(IRF6,newdata=NE\_SB)  
NESB\_P7<-predict(IRF7,newdata=NE\_SB)  
NESB\_P8<-predict(IRF8,newdata=NE\_SB)  
NESB\_P9<-predict(IRF9,newdata=NE\_SB)  
NESB\_P10<-predict(IRF10,newdata=NE\_SB)  
NESB\_P11<-predict(IRF11,newdata=NE\_SB)  
NESB\_P12<-predict(IRF12,newdata=NE\_SB)  
NESB\_P13<-predict(IRF13,newdata=NE\_SB)  
NESB\_P14<-predict(IRF14,newdata=NE\_SB)  
NESB\_P15<-predict(IRF15,newdata=NE\_SB)  
NESB\_P16<-predict(IRF16,newdata=NE\_SB)  
NESB\_P17<-predict(IRF17,newdata=NE\_SB)  
NESB\_P18<-predict(IRF18,newdata=NE\_SB)  
NESB\_P19<-predict(IRF19,newdata=NE\_SB)  
NESB\_P20<-predict(IRF20,newdata=NE\_SB)  
NESB\_P21<-predict(IRF21,newdata=NE\_SB)  
NESB\_OP1<-predict(ARFM1,newdata=NE\_SB)  
NESB\_OP2<-predict(ARFM2,newdata=NE\_SB)  
NESB\_OP3<-predict(ARFM3,newdata=NE\_SB)  
NESB\_OP4<-predict(ARFM4,newdata=NE\_SB)  
NESB\_OP5<-predict(ARFM5,newdata=NE\_SB)  
NESB\_OP6<-predict(ARFM6,newdata=NE\_SB)  
NESB\_OP7<-predict(ARFM7,newdata=NE\_SB)  
NESB\_OP8<-predict(ARFM8,newdata=NE\_SB)  
NESB\_OP9<-predict(ARFM9,newdata=NE\_SB)  
NESB\_OP10<-predict(ARFM10,newdata=NE\_SB)  
NESB\_OP11<-predict(ARFM11,newdata=NE\_SB)  
NESB\_OP12<-predict(ARFM12,newdata=NE\_SB)  
NESB\_OP13<-predict(ARFM13,newdata=NE\_SB)  
NESB\_OP14<-predict(ARFM14,newdata=NE\_SB)  
NESB\_OP15<-predict(ARFM15,newdata=NE\_SB)  
NESB\_OP16<-predict(ARFM16,newdata=NE\_SB)  
NESB\_OP17<-predict(ARFM17,newdata=NE\_SB)  
NESB\_OP18<-predict(ARFM18,newdata=NE\_SB)  
NESB\_OP19<-predict(ARFM19,newdata=NE\_SB)  
NESB\_OP20<-predict(ARFM20,newdata=NE\_SB)  
NESB\_OP21<-predict(ARFM21,newdata=NE\_SB)  
NESB\_OP22<-predict(ARFM22,newdata=NE\_SB)  
NESB\_OP23<-predict(ARFM23,newdata=NE\_SB)  
NESB\_OP24<-predict(ARFM24,newdata=NE\_SB)  
NESB\_OP25<-predict(ARFM25,newdata=NE\_SB)  
NESB\_OP26<-predict(ARFM26,newdata=NE\_SB)  
NESB\_OP27<-predict(ARFM27,newdata=NE\_SB)  
NESB\_OP28<-predict(ARFM28,newdata=NE\_SB)  
NESB\_OP29<-predict(ARFM29,newdata=NE\_SB)  
NESB\_OP30<-predict(ARFM30,newdata=NE\_SB)  
NESB\_OP31<-predict(ARFM31,newdata=NE\_SB)  
  
  
  
  
  
  
LARSB\_P1<-predict(IRF1,newdata=LAR\_SB)  
LARSB\_P2<-predict(IRF2,newdata=LAR\_SB)  
LARSB\_P3<-predict(IRF3,newdata=LAR\_SB)  
LARSB\_P4<-predict(IRF4,newdata=LAR\_SB)  
LARSB\_P5<-predict(IRF5,newdata=LAR\_SB)  
LARSB\_P6<-predict(IRF6,newdata=LAR\_SB)  
LARSB\_P7<-predict(IRF7,newdata=LAR\_SB)  
LARSB\_P8<-predict(IRF8,newdata=LAR\_SB)  
LARSB\_P9<-predict(IRF9,newdata=LAR\_SB)  
LARSB\_P10<-predict(IRF10,newdata=LAR\_SB)  
LARSB\_P11<-predict(IRF11,newdata=LAR\_SB)  
LARSB\_P12<-predict(IRF12,newdata=LAR\_SB)  
LARSB\_P13<-predict(IRF13,newdata=LAR\_SB)  
LARSB\_P14<-predict(IRF14,newdata=LAR\_SB)  
LARSB\_P15<-predict(IRF15,newdata=LAR\_SB)  
LARSB\_P16<-predict(IRF16,newdata=LAR\_SB)  
LARSB\_P17<-predict(IRF17,newdata=LAR\_SB)  
LARSB\_P18<-predict(IRF18,newdata=LAR\_SB)  
LARSB\_P19<-predict(IRF19,newdata=LAR\_SB)  
LARSB\_P20<-predict(IRF20,newdata=LAR\_SB)  
LARSB\_P21<-predict(IRF21,newdata=LAR\_SB)  
LARSB\_OP1<-predict(ARFM1,newdata=LAR\_SB)  
LARSB\_OP2<-predict(ARFM2,newdata=LAR\_SB)  
LARSB\_OP3<-predict(ARFM3,newdata=LAR\_SB)  
LARSB\_OP4<-predict(ARFM4,newdata=LAR\_SB)  
LARSB\_OP5<-predict(ARFM5,newdata=LAR\_SB)  
LARSB\_OP6<-predict(ARFM6,newdata=LAR\_SB)  
LARSB\_OP7<-predict(ARFM7,newdata=LAR\_SB)  
LARSB\_OP8<-predict(ARFM8,newdata=LAR\_SB)  
LARSB\_OP9<-predict(ARFM9,newdata=LAR\_SB)  
LARSB\_OP10<-predict(ARFM10,newdata=LAR\_SB)  
LARSB\_OP11<-predict(ARFM11,newdata=LAR\_SB)  
LARSB\_OP12<-predict(ARFM12,newdata=LAR\_SB)  
LARSB\_OP13<-predict(ARFM13,newdata=LAR\_SB)  
LARSB\_OP14<-predict(ARFM14,newdata=LAR\_SB)  
LARSB\_OP15<-predict(ARFM15,newdata=LAR\_SB)  
LARSB\_OP16<-predict(ARFM16,newdata=LAR\_SB)  
LARSB\_OP17<-predict(ARFM17,newdata=LAR\_SB)  
LARSB\_OP18<-predict(ARFM18,newdata=LAR\_SB)  
LARSB\_OP19<-predict(ARFM19,newdata=LAR\_SB)  
LARSB\_OP20<-predict(ARFM20,newdata=LAR\_SB)  
LARSB\_OP21<-predict(ARFM21,newdata=LAR\_SB)  
LARSB\_OP22<-predict(ARFM22,newdata=LAR\_SB)  
LARSB\_OP23<-predict(ARFM23,newdata=LAR\_SB)  
LARSB\_OP24<-predict(ARFM24,newdata=LAR\_SB)  
LARSB\_OP25<-predict(ARFM25,newdata=LAR\_SB)  
LARSB\_OP26<-predict(ARFM26,newdata=LAR\_SB)  
LARSB\_OP27<-predict(ARFM27,newdata=LAR\_SB)  
LARSB\_OP28<-predict(ARFM28,newdata=LAR\_SB)  
LARSB\_OP29<-predict(ARFM29,newdata=LAR\_SB)  
LARSB\_OP30<-predict(ARFM30,newdata=LAR\_SB)  
LARSB\_OP31<-predict(ARFM31,newdata=LAR\_SB)

HOUO\_P1<-predict(IRF1,newdata=HOUOAK)  
HOUO\_P2<-predict(IRF2,newdata=HOUOAK)  
HOUO\_P3<-predict(IRF3,newdata=HOUOAK)  
HOUO\_P4<-predict(IRF4,newdata=HOUOAK)  
HOUO\_P5<-predict(IRF5,newdata=HOUOAK)  
HOUO\_P6<-predict(IRF6,newdata=HOUOAK)  
HOUO\_P7<-predict(IRF7,newdata=HOUOAK)  
HOUO\_P8<-predict(IRF8,newdata=HOUOAK)  
HOUO\_P9<-predict(IRF9,newdata=HOUOAK)  
HOUO\_P10<-predict(IRF10,newdata=HOUOAK)  
HOUO\_P11<-predict(IRF11,newdata=HOUOAK)  
HOUO\_P12<-predict(IRF12,newdata=HOUOAK)  
HOUO\_P13<-predict(IRF13,newdata=HOUOAK)  
HOUO\_P14<-predict(IRF14,newdata=HOUOAK)  
HOUO\_P15<-predict(IRF15,newdata=HOUOAK)  
HOUO\_P16<-predict(IRF16,newdata=HOUOAK)  
HOUO\_P17<-predict(IRF17,newdata=HOUOAK)  
HOUO\_P18<-predict(IRF18,newdata=HOUOAK)  
HOUO\_P19<-predict(IRF19,newdata=HOUOAK)  
HOUO\_P20<-predict(IRF20,newdata=HOUOAK)  
HOUO\_P21<-predict(IRF21,newdata=HOUOAK)  
HOU\_OP1<-predict(ARFM1,newdata=HOU\_SV1)  
HOU\_OP2<-predict(ARFM2,newdata=HOU\_SV1)  
HOU\_OP3<-predict(ARFM3,newdata=HOU\_SV1)  
HOU\_OP4<-predict(ARFM4,newdata=HOU\_SV1)  
HOU\_OP5<-predict(ARFM5,newdata=HOU\_SV1)  
HOU\_OP6<-predict(ARFM6,newdata=HOU\_SV1)  
HOU\_OP7<-predict(ARFM7,newdata=HOU\_SV1)  
HOU\_OP8<-predict(ARFM8,newdata=HOU\_SV1)  
HOU\_OP9<-predict(ARFM9,newdata=HOU\_SV1)  
HOU\_OP10<-predict(ARFM10,newdata=HOU\_SV1)  
HOU\_OP11<-predict(ARFM11,newdata=HOU\_SV1)  
HOU\_OP12<-predict(ARFM12,newdata=HOU\_SV1)  
HOU\_OP13<-predict(ARFM13,newdata=HOU\_SV1)  
HOU\_OP14<-predict(ARFM14,newdata=HOU\_SV1)  
HOU\_OP15<-predict(ARFM15,newdata=HOU\_SV1)  
HOU\_OP16<-predict(ARFM16,newdata=HOU\_SV1)  
HOU\_OP17<-predict(ARFM17,newdata=HOU\_SV1)  
HOU\_OP18<-predict(ARFM18,newdata=HOU\_SV1)  
HOU\_OP19<-predict(ARFM19,newdata=HOU\_SV1)  
HOU\_OP20<-predict(ARFM20,newdata=HOU\_SV1)  
HOU\_OP21<-predict(ARFM21,newdata=HOU\_SV1)  
HOU\_OP22<-predict(ARFM22,newdata=HOU\_SV1)  
HOU\_OP23<-predict(ARFM23,newdata=HOU\_SV1)  
HOU\_OP24<-predict(ARFM24,newdata=HOU\_SV1)  
HOU\_OP25<-predict(ARFM25,newdata=HOU\_SV1)  
HOU\_OP26<-predict(ARFM26,newdata=HOU\_SV1)  
HOU\_OP27<-predict(ARFM27,newdata=HOU\_SV1)  
HOU\_OP28<-predict(ARFM28,newdata=HOU\_SV1)  
HOU\_OP29<-predict(ARFM29,newdata=HOU\_SV1)  
HOU\_OP30<-predict(ARFM30,newdata=HOU\_SV1)  
HOU\_OP31<-predict(ARFM31,newdata=HOU\_SV1)

# NE VS LAR 2018  
  
NE\_SUB <- data.frame(TT=2.62,  
CAY=5.6,  
AGG=13.9,  
AYTS=-1.1,  
ATT=36,  
TD=2,  
INT=1,  
COMP=65.8,  
EFF=3.71,  
EM=26.79,  
TLOS=2.7,  
AVG=4.5,  
CUSH=5.8,  
SEP=3.025,  
TAY=11.425,  
CTCH=63.7975,  
YACR=5.675,  
TT\_OPP=2.95,  
CAY\_OPP=7,  
AGG\_OPP=13.2,  
AYTS\_OPP=0.1,  
ATT\_OPP=35,  
TD\_OPP=2,  
INT\_OPP=1,  
COMP\_OPP=64.9,  
EFF\_OPP=3.65,  
EM\_OPP=7.81,  
TLOS\_OPP=2.8,  
AVG\_OPP=4.9,  
CUSH\_OPP=6.46,  
SEP\_OPP=3.22,  
TAY\_OPP=10.46,  
CTCH\_OPP=65.668,  
YACR\_OPP=5.36,  
Week = 17  
)  
  
LAR\_SUB <- data.frame(TT=2.95,  
CAY=7,  
AGG=13.2,  
AYTS=0.1,  
ATT=35,  
TD=2,  
INT=1,  
COMP=64.9,  
EFF=3.65,  
EM=7.81,  
TLOS=2.8,  
AVG=4.9,  
CUSH=6.46,  
SEP=3.22,  
TAY=10.46,  
CTCH=65.668,  
YACR=5.36,  
TT\_OPP=2.62,  
CAY\_OPP=5.6,  
AGG\_OPP=13.9,  
AYTS\_OPP=-1.1,  
ATT\_OPP=36,  
TD\_OPP=2,  
INT\_OPP=1,  
COMP\_OPP=65.8,  
EFF\_OPP=3.71,  
EM\_OPP=26.79,  
TLOS\_OPP=2.7,  
AVG\_OPP=4.5,  
CUSH\_OPP=5.8,  
SEP\_OPP=3.025,  
TAY\_OPP=11.425,  
CTCH\_OPP=63.7975,  
YACR\_OPP=5.675,   
Week=17  
)

NEET\_P1<-predict(IRF1,newdata=NE\_SUB)  
NEET\_P2<-predict(IRF2,newdata=NE\_SUB)  
NEET\_P3<-predict(IRF3,newdata=NE\_SUB)  
NEET\_P4<-predict(IRF4,newdata=NE\_SUB)  
NEET\_P5<-predict(IRF5,newdata=NE\_SUB)  
NEET\_P6<-predict(IRF6,newdata=NE\_SUB)  
NEET\_P7<-predict(IRF7,newdata=NE\_SUB)  
NEET\_P8<-predict(IRF8,newdata=NE\_SUB)  
NEET\_P9<-predict(IRF9,newdata=NE\_SUB)  
NEET\_P10<-predict(IRF10,newdata=NE\_SUB)  
NEET\_P11<-predict(IRF11,newdata=NE\_SUB)  
NEET\_P12<-predict(IRF12,newdata=NE\_SUB)  
NEET\_P13<-predict(IRF13,newdata=NE\_SUB)  
NEET\_P14<-predict(IRF14,newdata=NE\_SUB)  
NEET\_P15<-predict(IRF15,newdata=NE\_SUB)  
NEET\_P16<-predict(IRF16,newdata=NE\_SUB)  
NEET\_P17<-predict(IRF17,newdata=NE\_SUB)  
NEET\_P18<-predict(IRF18,newdata=NE\_SUB)  
NEET\_P19<-predict(IRF19,newdata=NE\_SUB)  
NEET\_P20<-predict(IRF20,newdata=NE\_SUB)  
NEET\_P21<-predict(IRF21,newdata=NE\_SUB)  
NEET\_OP1<-predict(ARFM1,newdata=NE\_SUB)  
NEET\_OP2<-predict(ARFM2,newdata=NE\_SUB)  
NEET\_OP3<-predict(ARFM3,newdata=NE\_SUB)  
NEET\_OP4<-predict(ARFM4,newdata=NE\_SUB)  
NEET\_OP5<-predict(ARFM5,newdata=NE\_SUB)  
NEET\_OP6<-predict(ARFM6,newdata=NE\_SUB)  
NEET\_OP7<-predict(ARFM7,newdata=NE\_SUB)  
NEET\_OP8<-predict(ARFM8,newdata=NE\_SUB)  
NEET\_OP9<-predict(ARFM9,newdata=NE\_SUB)  
NEET\_OP10<-predict(ARFM10,newdata=NE\_SUB)  
NEET\_OP11<-predict(ARFM11,newdata=NE\_SUB)  
NEET\_OP12<-predict(ARFM12,newdata=NE\_SUB)  
NEET\_OP13<-predict(ARFM13,newdata=NE\_SUB)  
NEET\_OP14<-predict(ARFM14,newdata=NE\_SUB)  
NEET\_OP15<-predict(ARFM15,newdata=NE\_SUB)  
NEET\_OP16<-predict(ARFM16,newdata=NE\_SUB)  
NEET\_OP17<-predict(ARFM17,newdata=NE\_SUB)  
NEET\_OP18<-predict(ARFM18,newdata=NE\_SUB)  
NEET\_OP19<-predict(ARFM19,newdata=NE\_SUB)  
NEET\_OP20<-predict(ARFM20,newdata=NE\_SUB)  
NEET\_OP21<-predict(ARFM21,newdata=NE\_SUB)  
NEET\_OP22<-predict(ARFM22,newdata=NE\_SUB)  
NEET\_OP23<-predict(ARFM23,newdata=NE\_SUB)  
NEET\_OP24<-predict(ARFM24,newdata=NE\_SUB)  
NEET\_OP25<-predict(ARFM25,newdata=NE\_SUB)  
NEET\_OP26<-predict(ARFM26,newdata=NE\_SUB)  
NEET\_OP27<-predict(ARFM27,newdata=NE\_SUB)  
NEET\_OP28<-predict(ARFM28,newdata=NE\_SUB)  
NEET\_OP29<-predict(ARFM29,newdata=NE\_SUB)  
NEET\_OP30<-predict(ARFM30,newdata=NE\_SUB)  
NEET\_OP31<-predict(ARFM31,newdata=NE\_SUB)  
  
  
  
  
  
  
LARET\_P1<-predict(IRF1,newdata=LAR\_SUB)  
LARET\_P2<-predict(IRF2,newdata=LAR\_SUB)  
LARET\_P3<-predict(IRF3,newdata=LAR\_SUB)  
LARET\_P4<-predict(IRF4,newdata=LAR\_SUB)  
LARET\_P5<-predict(IRF5,newdata=LAR\_SUB)  
LARET\_P6<-predict(IRF6,newdata=LAR\_SUB)  
LARET\_P7<-predict(IRF7,newdata=LAR\_SUB)  
LARET\_P8<-predict(IRF8,newdata=LAR\_SUB)  
LARET\_P9<-predict(IRF9,newdata=LAR\_SUB)  
LARET\_P10<-predict(IRF10,newdata=LAR\_SUB)  
LARET\_P11<-predict(IRF11,newdata=LAR\_SUB)  
LARET\_P12<-predict(IRF12,newdata=LAR\_SUB)  
LARET\_P13<-predict(IRF13,newdata=LAR\_SUB)  
LARET\_P14<-predict(IRF14,newdata=LAR\_SUB)  
LARET\_P15<-predict(IRF15,newdata=LAR\_SUB)  
LARET\_P16<-predict(IRF16,newdata=LAR\_SUB)  
LARET\_P17<-predict(IRF17,newdata=LAR\_SUB)  
LARET\_P18<-predict(IRF18,newdata=LAR\_SUB)  
LARET\_P19<-predict(IRF19,newdata=LAR\_SUB)  
LARET\_P20<-predict(IRF20,newdata=LAR\_SUB)  
LARET\_P21<-predict(IRF21,newdata=LAR\_SUB)  
LARET\_OP1<-predict(ARFM1,newdata=LAR\_SUB)  
LARET\_OP2<-predict(ARFM2,newdata=LAR\_SUB)  
LARET\_OP3<-predict(ARFM3,newdata=LAR\_SUB)  
LARET\_OP4<-predict(ARFM4,newdata=LAR\_SUB)  
LARET\_OP5<-predict(ARFM5,newdata=LAR\_SUB)  
LARET\_OP6<-predict(ARFM6,newdata=LAR\_SUB)  
LARET\_OP7<-predict(ARFM7,newdata=LAR\_SUB)  
LARET\_OP8<-predict(ARFM8,newdata=LAR\_SUB)  
LARET\_OP9<-predict(ARFM9,newdata=LAR\_SUB)  
LARET\_OP10<-predict(ARFM10,newdata=LAR\_SUB)  
LARET\_OP11<-predict(ARFM11,newdata=LAR\_SUB)  
LARET\_OP12<-predict(ARFM12,newdata=LAR\_SUB)  
LARET\_OP13<-predict(ARFM13,newdata=LAR\_SUB)  
LARET\_OP14<-predict(ARFM14,newdata=LAR\_SUB)  
LARET\_OP15<-predict(ARFM15,newdata=LAR\_SUB)  
LARET\_OP16<-predict(ARFM16,newdata=LAR\_SUB)  
LARET\_OP17<-predict(ARFM17,newdata=LAR\_SUB)  
LARET\_OP18<-predict(ARFM18,newdata=LAR\_SUB)  
LARET\_OP19<-predict(ARFM19,newdata=LAR\_SUB)  
LARET\_OP20<-predict(ARFM20,newdata=LAR\_SUB)  
LARET\_OP21<-predict(ARFM21,newdata=LAR\_SUB)  
LARET\_OP22<-predict(ARFM22,newdata=LAR\_SUB)  
LARET\_OP23<-predict(ARFM23,newdata=LAR\_SUB)  
LARET\_OP24<-predict(ARFM24,newdata=LAR\_SUB)  
LARET\_OP25<-predict(ARFM25,newdata=LAR\_SUB)  
LARET\_OP26<-predict(ARFM26,newdata=LAR\_SUB)  
LARET\_OP27<-predict(ARFM27,newdata=LAR\_SUB)  
LARET\_OP28<-predict(ARFM28,newdata=LAR\_SUB)  
LARET\_OP29<-predict(ARFM29,newdata=LAR\_SUB)  
LARET\_OP30<-predict(ARFM30,newdata=LAR\_SUB)  
LARET\_OP31<-predict(ARFM31,newdata=LAR\_SUB)

NEET\_P1

## 1   
## 0.7451667

NEET\_P2

## 1   
## 25.1946

NEET\_P3

## 1   
## 24.14983

NEET\_P4

## 1   
## 22.09483

NEET\_P5

## 1   
## 220.1165

NEET\_P6

## 1   
## 128.8325

NEET\_P7

## 1   
## 0.9126667

NEET\_P8

## 1   
## 20.4481

NEET\_P9

## 1   
## 239.64

NEET\_P10

## 1   
## 118.0645

NEET\_P11

## 1   
## 0.6085

NEET\_P12

## 1   
## 32.5907

NEET\_P13

## 1   
## 1.3971

NEET\_P14

## 1   
## 0.3805667

NEET\_P15

## 1   
## 18.1882

NEET\_P16

## 1   
## 0.5711333

NEET\_P17

## 1   
## 34.1557

NEET\_P18

## 1   
## 1.2918

NEET\_P19

## 1   
## 0.5266333

NEET\_P20

## 1   
## 18.52847

NEET\_P21

## 1   
## 0.5564333

NEET\_OP1

## 1   
## 0.6695333

NEET\_OP2

## 1   
## 23.33597

NEET\_OP3

## 1   
## 22.59697

NEET\_OP4

## 1   
## 21.85537

NEET\_OP5

## 1   
## 262.8208

NEET\_OP6

## 1   
## 118.9133

NEET\_OP7

## 1   
## 1.201567

NEET\_OP8

## 1   
## 19.31987

NEET\_OP9

## 1   
## 227.4592

NEET\_OP10

## 1   
## 103.4084

NEET\_OP11

## 1   
## 0.7971667

NEET\_OP12

## 1   
## 2.727128

NEET\_OP13

## 1   
## 5.994673

NEET\_OP14

## 1   
## 16.23226

NEET\_OP15

## 1   
## 37.43968

NEET\_OP16

## 1   
## -1.315243

NEET\_OP17

## 1   
## 37.74177

NEET\_OP18

## 1   
## 1.683967

NEET\_OP19

## 1   
## 0.7036333

NEET\_OP20

## 1   
## 63.08428

NEET\_OP21

## 1   
## 17.63307

NEET\_OP22

## 1   
## 0.5470333

NEET\_OP23

## 1   
## 3.727693

NEET\_OP24

## 1   
## 21.42474

NEET\_OP25

## 1   
## 2.760536

NEET\_OP26

## 1   
## 4.297328

NEET\_OP27

## 1   
## 5.747973

NEET\_OP28

## 1   
## 2.829635

NEET\_OP29

## 1   
## 8.946734

NEET\_OP30

## 1   
## 65.20342

NEET\_OP31

## 1   
## 4.787087

LARET\_P1

## 1   
## 0.6177

LARET\_P2

## 1   
## 26.08027

LARET\_P3

## 1   
## 19.76603

LARET\_P4

## 1   
## 23.2239

LARET\_P5

## 1   
## 224.8893

LARET\_P6

## 1   
## 134.6227

LARET\_P7

## 1   
## 0.9774667

LARET\_P8

## 1   
## 19.58523

LARET\_P9

## 1   
## 225.4953

LARET\_P10

## 1   
## 108.9608

LARET\_P11

## 1   
## 0.8188667

LARET\_P12

## 1   
## 32.12403

LARET\_P13

## 1   
## 1.974533

LARET\_P14

## 1   
## 0.3767333

LARET\_P15

## 1   
## 17.4996

LARET\_P16

## 1   
## 0.4298333

LARET\_P17

## 1   
## 33.5043

LARET\_P18

## 1   
## 1.4747

LARET\_P19

## 1   
## 0.4017333

LARET\_P20

## 1   
## 16.7539

LARET\_P21

## 1   
## 0.3423

LARET\_OP1

## 1   
## 0.6598

LARET\_OP2

## 1   
## 27.21917

LARET\_OP3

## 1   
## 22.9312

LARET\_OP4

## 1   
## 23.53907

LARET\_OP5

## 1   
## 274.2845

LARET\_OP6

## 1   
## 132.9768

LARET\_OP7

## 1   
## 1.5633

LARET\_OP8

## 1   
## 20.3669

LARET\_OP9

## 1   
## 235.3116

LARET\_OP10

## 1   
## 99.8242

LARET\_OP11

## 1   
## 0.9430667

LARET\_OP12

## 1   
## 2.808104

LARET\_OP13

## 1   
## 6.504477

LARET\_OP14

## 1   
## 14.96541

LARET\_OP15

## 1   
## 41.65013

LARET\_OP16

## 1   
## -0.6136333

LARET\_OP17

## 1   
## 37.1629

LARET\_OP18

## 1   
## 2.074

LARET\_OP19

## 1   
## 0.5201333

LARET\_OP20

## 1   
## 62.09139

LARET\_OP21

## 1   
## 17.69623

LARET\_OP22

## 1   
## 0.6428333

LARET\_OP23

## 1   
## 3.50208

LARET\_OP24

## 1   
## 24.25224

LARET\_OP25

## 1   
## 2.774207

LARET\_OP26

## 1   
## 4.469173

LARET\_OP27

## 1   
## 5.867193

LARET\_OP28

## 1   
## 3.047829

LARET\_OP29

## 1   
## 9.922586

LARET\_OP30

## 1   
## 67.37176

LARET\_OP31

## 1   
## 4.954449

HOUO\_P1

## 1   
## 0.5644333

HOUO\_P2

## 1   
## 26.68537

HOUO\_P3

## 1   
## 21.5218

HOUO\_P4

## 1   
## 21.2168

HOUO\_P5

## 1   
## 219.3897

HOUO\_P6

## 1   
## 101.4657

HOUO\_P7

## 1   
## 0.741

HOUO\_P8

## 1   
## 21.13057

HOUO\_P9

## 1   
## 238.9532

HOUO\_P10

## 1   
## 112.2794

HOUO\_P11

## 1   
## 0.4691

HOUO\_P12

## 1   
## 32.4347

HOUO\_P13

## 1   
## 1.698233

HOUO\_P14

## 1   
## 0.3366

HOUO\_P15

## 1   
## 16.32737

HOUO\_P16

## 1   
## 0.4307667

HOUO\_P17

## 1   
## 33.87037

HOUO\_P18

## 1   
## 1.409167

HOUO\_P19

## 1   
## 0.1832

HOUO\_P20

## 1   
## 16.9632

HOUO\_P21

## 1   
## 0.3014667

#BAL  
BAL\_P1<-predict(IRF1,newdata=BALPIT)  
BAL\_P2<-predict(IRF2,newdata=BALPIT)  
BAL\_P3<-predict(IRF3,newdata=BALPIT)  
BAL\_P4<-predict(IRF4,newdata=BALPIT)  
BAL\_P5<-predict(IRF5,newdata=BALPIT)  
BAL\_P6<-predict(IRF6,newdata=BALPIT)  
BAL\_P7<-predict(IRF7,newdata=BALPIT)  
BAL\_P8<-predict(IRF8,newdata=BALPIT)  
BAL\_P9<-predict(IRF9,newdata=BALPIT)  
BAL\_P10<-predict(IRF10,newdata=BALPIT)  
BAL\_P11<-predict(IRF11,newdata=BALPIT)  
BAL\_P12<-predict(IRF12,newdata=BALPIT)  
BAL\_P13<-predict(IRF13,newdata=BALPIT)  
BAL\_P14<-predict(IRF14,newdata=BALPIT)  
BAL\_P15<-predict(IRF15,newdata=BALPIT)  
BAL\_P16<-predict(IRF16,newdata=BALPIT)  
BAL\_P17<-predict(IRF17,newdata=BALPIT)  
BAL\_P18<-predict(IRF18,newdata=BALPIT)  
BAL\_P19<-predict(IRF19,newdata=BALPIT)  
BAL\_P20<-predict(IRF20,newdata=BALPIT)  
BAL\_P21<-predict(IRF21,newdata=BALPIT)  
BAL\_OP1<-predict(ARFM1,newdata=BALPIT)  
BAL\_OP2<-predict(ARFM2,newdata=BALPIT)  
BAL\_OP3<-predict(ARFM3,newdata=BALPIT)  
BAL\_OP4<-predict(ARFM4,newdata=BALPIT)  
BAL\_OP5<-predict(ARFM5,newdata=BALPIT)  
BAL\_OP6<-predict(ARFM6,newdata=BALPIT)  
BAL\_OP7<-predict(ARFM7,newdata=BALPIT)  
BAL\_OP8<-predict(ARFM8,newdata=BALPIT)  
BAL\_OP9<-predict(ARFM9,newdata=BALPIT)  
BAL\_OP10<-predict(ARFM10,newdata=BALPIT)  
BAL\_OP11<-predict(ARFM11,newdata=BALPIT)  
BAL\_OP12<-predict(ARFM12,newdata=BALPIT)  
BAL\_OP13<-predict(ARFM13,newdata=BALPIT)  
BAL\_OP14<-predict(ARFM14,newdata=BALPIT)  
BAL\_OP15<-predict(ARFM15,newdata=BALPIT)  
BAL\_OP16<-predict(ARFM16,newdata=BALPIT)  
BAL\_OP17<-predict(ARFM17,newdata=BALPIT)  
BAL\_OP18<-predict(ARFM18,newdata=BALPIT)  
BAL\_OP19<-predict(ARFM19,newdata=BALPIT)  
BAL\_OP20<-predict(ARFM20,newdata=BALPIT)  
BAL\_OP21<-predict(ARFM21,newdata=BALPIT)  
BAL\_OP22<-predict(ARFM22,newdata=BALPIT)  
BAL\_OP23<-predict(ARFM23,newdata=BALPIT)  
BAL\_OP24<-predict(ARFM24,newdata=BALPIT)  
BAL\_OP25<-predict(ARFM25,newdata=BALPIT)  
BAL\_OP26<-predict(ARFM26,newdata=BALPIT)  
BAL\_OP27<-predict(ARFM27,newdata=BALPIT)  
BAL\_OP28<-predict(ARFM28,newdata=BALPIT)  
BAL\_OP29<-predict(ARFM29,newdata=BALPIT)  
BAL\_OP30<-predict(ARFM30,newdata=BALPIT)  
BAL\_OP31<-predict(ARFM31,newdata=BALPIT)  
  
  
#PIT  
PIT\_P1<-predict(IRF1,newdata=PITBAL)  
PIT\_P2<-predict(IRF2,newdata=PITBAL)  
PIT\_P3<-predict(IRF3,newdata=PITBAL)  
PIT\_P4<-predict(IRF4,newdata=PITBAL)  
PIT\_P5<-predict(IRF5,newdata=PITBAL)  
PIT\_P6<-predict(IRF6,newdata=PITBAL)  
PIT\_P7<-predict(IRF7,newdata=PITBAL)  
PIT\_P8<-predict(IRF8,newdata=PITBAL)  
PIT\_P9<-predict(IRF9,newdata=PITBAL)  
PIT\_P10<-predict(IRF10,newdata=PITBAL)  
PIT\_P11<-predict(IRF11,newdata=PITBAL)  
PIT\_P12<-predict(IRF12,newdata=PITBAL)  
PIT\_P13<-predict(IRF13,newdata=PITBAL)  
PIT\_P14<-predict(IRF14,newdata=PITBAL)  
PIT\_P15<-predict(IRF15,newdata=PITBAL)  
PIT\_P16<-predict(IRF16,newdata=PITBAL)  
PIT\_P17<-predict(IRF17,newdata=PITBAL)  
PIT\_P18<-predict(IRF18,newdata=PITBAL)  
PIT\_P19<-predict(IRF19,newdata=PITBAL)  
PIT\_P20<-predict(IRF20,newdata=PITBAL)  
PIT\_P21<-predict(IRF21,newdata=PITBAL)  
PIT\_OP1<-predict(ARFM1,newdata=PITBAL)  
PIT\_OP2<-predict(ARFM2,newdata=PITBAL)  
PIT\_OP3<-predict(ARFM3,newdata=PITBAL)  
PIT\_OP4<-predict(ARFM4,newdata=PITBAL)  
PIT\_OP5<-predict(ARFM5,newdata=PITBAL)  
PIT\_OP6<-predict(ARFM6,newdata=PITBAL)  
PIT\_OP7<-predict(ARFM7,newdata=PITBAL)  
PIT\_OP8<-predict(ARFM8,newdata=PITBAL)  
PIT\_OP9<-predict(ARFM9,newdata=PITBAL)  
PIT\_OP10<-predict(ARFM10,newdata=PITBAL)  
PIT\_OP11<-predict(ARFM11,newdata=PITBAL)  
PIT\_OP12<-predict(ARFM12,newdata=PITBAL)  
PIT\_OP13<-predict(ARFM13,newdata=PITBAL)  
PIT\_OP14<-predict(ARFM14,newdata=PITBAL)  
PIT\_OP15<-predict(ARFM15,newdata=PITBAL)  
PIT\_OP16<-predict(ARFM16,newdata=PITBAL)  
PIT\_OP17<-predict(ARFM17,newdata=PITBAL)  
PIT\_OP18<-predict(ARFM18,newdata=PITBAL)  
PIT\_OP19<-predict(ARFM19,newdata=PITBAL)  
PIT\_OP20<-predict(ARFM20,newdata=PITBAL)  
PIT\_OP21<-predict(ARFM21,newdata=PITBAL)  
PIT\_OP22<-predict(ARFM22,newdata=PITBAL)  
PIT\_OP23<-predict(ARFM23,newdata=PITBAL)  
PIT\_OP24<-predict(ARFM24,newdata=PITBAL)  
PIT\_OP25<-predict(ARFM25,newdata=PITBAL)  
PIT\_OP26<-predict(ARFM26,newdata=PITBAL)  
PIT\_OP27<-predict(ARFM27,newdata=PITBAL)  
PIT\_OP28<-predict(ARFM28,newdata=PITBAL)  
PIT\_OP29<-predict(ARFM29,newdata=PITBAL)  
PIT\_OP30<-predict(ARFM30,newdata=PITBAL)  
PIT\_OP31<-predict(ARFM31,newdata=PITBAL)  
  
  
#ARI  
ARI\_P1<-predict(IRF1,newdata=ARILAR)  
ARI\_P2<-predict(IRF2,newdata=ARILAR)  
ARI\_P3<-predict(IRF3,newdata=ARILAR)  
ARI\_P4<-predict(IRF4,newdata=ARILAR)  
ARI\_P5<-predict(IRF5,newdata=ARILAR)  
ARI\_P6<-predict(IRF6,newdata=ARILAR)  
ARI\_P7<-predict(IRF7,newdata=ARILAR)  
ARI\_P8<-predict(IRF8,newdata=ARILAR)  
ARI\_P9<-predict(IRF9,newdata=ARILAR)  
ARI\_P10<-predict(IRF10,newdata=ARILAR)  
ARI\_P11<-predict(IRF11,newdata=ARILAR)  
ARI\_P12<-predict(IRF12,newdata=ARILAR)  
ARI\_P13<-predict(IRF13,newdata=ARILAR)  
ARI\_P14<-predict(IRF14,newdata=ARILAR)  
ARI\_P15<-predict(IRF15,newdata=ARILAR)  
ARI\_P16<-predict(IRF16,newdata=ARILAR)  
ARI\_P17<-predict(IRF17,newdata=ARILAR)  
ARI\_P18<-predict(IRF18,newdata=ARILAR)  
ARI\_P19<-predict(IRF19,newdata=ARILAR)  
ARI\_P20<-predict(IRF20,newdata=ARILAR)  
ARI\_P21<-predict(IRF21,newdata=ARILAR)  
ARI\_OP1<-predict(ARFM1,newdata=ARILAR)  
ARI\_OP2<-predict(ARFM2,newdata=ARILAR)  
ARI\_OP3<-predict(ARFM3,newdata=ARILAR)  
ARI\_OP4<-predict(ARFM4,newdata=ARILAR)  
ARI\_OP5<-predict(ARFM5,newdata=ARILAR)  
ARI\_OP6<-predict(ARFM6,newdata=ARILAR)  
ARI\_OP7<-predict(ARFM7,newdata=ARILAR)  
ARI\_OP8<-predict(ARFM8,newdata=ARILAR)  
ARI\_OP9<-predict(ARFM9,newdata=ARILAR)  
ARI\_OP10<-predict(ARFM10,newdata=ARILAR)  
ARI\_OP11<-predict(ARFM11,newdata=ARILAR)  
ARI\_OP12<-predict(ARFM12,newdata=ARILAR)  
ARI\_OP13<-predict(ARFM13,newdata=ARILAR)  
ARI\_OP14<-predict(ARFM14,newdata=ARILAR)  
ARI\_OP15<-predict(ARFM15,newdata=ARILAR)  
ARI\_OP16<-predict(ARFM16,newdata=ARILAR)  
ARI\_OP17<-predict(ARFM17,newdata=ARILAR)  
ARI\_OP18<-predict(ARFM18,newdata=ARILAR)  
ARI\_OP19<-predict(ARFM19,newdata=ARILAR)  
ARI\_OP20<-predict(ARFM20,newdata=ARILAR)  
ARI\_OP21<-predict(ARFM21,newdata=ARILAR)  
ARI\_OP22<-predict(ARFM22,newdata=ARILAR)  
ARI\_OP23<-predict(ARFM23,newdata=ARILAR)  
ARI\_OP24<-predict(ARFM24,newdata=ARILAR)  
ARI\_OP25<-predict(ARFM25,newdata=ARILAR)  
ARI\_OP26<-predict(ARFM26,newdata=ARILAR)  
ARI\_OP27<-predict(ARFM27,newdata=ARILAR)  
ARI\_OP28<-predict(ARFM28,newdata=ARILAR)  
ARI\_OP29<-predict(ARFM29,newdata=ARILAR)  
ARI\_OP30<-predict(ARFM30,newdata=ARILAR)  
ARI\_OP31<-predict(ARFM31,newdata=ARILAR)  
  
  
#ATL  
ATL\_P1<-predict(IRF1,newdata=ATLCAR)  
ATL\_P2<-predict(IRF2,newdata=ATLCAR)  
ATL\_P3<-predict(IRF3,newdata=ATLCAR)  
ATL\_P4<-predict(IRF4,newdata=ATLCAR)  
ATL\_P5<-predict(IRF5,newdata=ATLCAR)  
ATL\_P6<-predict(IRF6,newdata=ATLCAR)  
ATL\_P7<-predict(IRF7,newdata=ATLCAR)  
ATL\_P8<-predict(IRF8,newdata=ATLCAR)  
ATL\_P9<-predict(IRF9,newdata=ATLCAR)  
ATL\_P10<-predict(IRF10,newdata=ATLCAR)  
ATL\_P11<-predict(IRF11,newdata=ATLCAR)  
ATL\_P12<-predict(IRF12,newdata=ATLCAR)  
ATL\_P13<-predict(IRF13,newdata=ATLCAR)  
ATL\_P14<-predict(IRF14,newdata=ATLCAR)  
ATL\_P15<-predict(IRF15,newdata=ATLCAR)  
ATL\_P16<-predict(IRF16,newdata=ATLCAR)  
ATL\_P17<-predict(IRF17,newdata=ATLCAR)  
ATL\_P18<-predict(IRF18,newdata=ATLCAR)  
ATL\_P19<-predict(IRF19,newdata=ATLCAR)  
ATL\_P20<-predict(IRF20,newdata=ATLCAR)  
ATL\_P21<-predict(IRF21,newdata=ATLCAR)  
ATL\_OP1<-predict(ARFM1,newdata=ATLCAR)  
ATL\_OP2<-predict(ARFM2,newdata=ATLCAR)  
ATL\_OP3<-predict(ARFM3,newdata=ATLCAR)  
ATL\_OP4<-predict(ARFM4,newdata=ATLCAR)  
ATL\_OP5<-predict(ARFM5,newdata=ATLCAR)  
ATL\_OP6<-predict(ARFM6,newdata=ATLCAR)  
ATL\_OP7<-predict(ARFM7,newdata=ATLCAR)  
ATL\_OP8<-predict(ARFM8,newdata=ATLCAR)  
ATL\_OP9<-predict(ARFM9,newdata=ATLCAR)  
ATL\_OP10<-predict(ARFM10,newdata=ATLCAR)  
ATL\_OP11<-predict(ARFM11,newdata=ATLCAR)  
ATL\_OP12<-predict(ARFM12,newdata=ATLCAR)  
ATL\_OP13<-predict(ARFM13,newdata=ATLCAR)  
ATL\_OP14<-predict(ARFM14,newdata=ATLCAR)  
ATL\_OP15<-predict(ARFM15,newdata=ATLCAR)  
ATL\_OP16<-predict(ARFM16,newdata=ATLCAR)  
ATL\_OP17<-predict(ARFM17,newdata=ATLCAR)  
ATL\_OP18<-predict(ARFM18,newdata=ATLCAR)  
ATL\_OP19<-predict(ARFM19,newdata=ATLCAR)  
ATL\_OP20<-predict(ARFM20,newdata=ATLCAR)  
ATL\_OP21<-predict(ARFM21,newdata=ATLCAR)  
ATL\_OP22<-predict(ARFM22,newdata=ATLCAR)  
ATL\_OP23<-predict(ARFM23,newdata=ATLCAR)  
ATL\_OP24<-predict(ARFM24,newdata=ATLCAR)  
ATL\_OP25<-predict(ARFM25,newdata=ATLCAR)  
ATL\_OP26<-predict(ARFM26,newdata=ATLCAR)  
ATL\_OP27<-predict(ARFM27,newdata=ATLCAR)  
ATL\_OP28<-predict(ARFM28,newdata=ATLCAR)  
ATL\_OP29<-predict(ARFM29,newdata=ATLCAR)  
ATL\_OP30<-predict(ARFM30,newdata=ATLCAR)  
ATL\_OP31<-predict(ARFM31,newdata=ATLCAR)  
  
  
#CAR  
CAR\_P1<-predict(IRF1,newdata=CARATL)  
CAR\_P2<-predict(IRF2,newdata=CARATL)  
CAR\_P3<-predict(IRF3,newdata=CARATL)  
CAR\_P4<-predict(IRF4,newdata=CARATL)  
CAR\_P5<-predict(IRF5,newdata=CARATL)  
CAR\_P6<-predict(IRF6,newdata=CARATL)  
CAR\_P7<-predict(IRF7,newdata=CARATL)  
CAR\_P8<-predict(IRF8,newdata=CARATL)  
CAR\_P9<-predict(IRF9,newdata=CARATL)  
CAR\_P10<-predict(IRF10,newdata=CARATL)  
CAR\_P11<-predict(IRF11,newdata=CARATL)  
CAR\_P12<-predict(IRF12,newdata=CARATL)  
CAR\_P13<-predict(IRF13,newdata=CARATL)  
CAR\_P14<-predict(IRF14,newdata=CARATL)  
CAR\_P15<-predict(IRF15,newdata=CARATL)  
CAR\_P16<-predict(IRF16,newdata=CARATL)  
CAR\_P17<-predict(IRF17,newdata=CARATL)  
CAR\_P18<-predict(IRF18,newdata=CARATL)  
CAR\_P19<-predict(IRF19,newdata=CARATL)  
CAR\_P20<-predict(IRF20,newdata=CARATL)  
CAR\_P21<-predict(IRF21,newdata=CARATL)  
CAR\_OP1<-predict(ARFM1,newdata=CARATL)  
CAR\_OP2<-predict(ARFM2,newdata=CARATL)  
CAR\_OP3<-predict(ARFM3,newdata=CARATL)  
CAR\_OP4<-predict(ARFM4,newdata=CARATL)  
CAR\_OP5<-predict(ARFM5,newdata=CARATL)  
CAR\_OP6<-predict(ARFM6,newdata=CARATL)  
CAR\_OP7<-predict(ARFM7,newdata=CARATL)  
CAR\_OP8<-predict(ARFM8,newdata=CARATL)  
CAR\_OP9<-predict(ARFM9,newdata=CARATL)  
CAR\_OP10<-predict(ARFM10,newdata=CARATL)  
CAR\_OP11<-predict(ARFM11,newdata=CARATL)  
CAR\_OP12<-predict(ARFM12,newdata=CARATL)  
CAR\_OP13<-predict(ARFM13,newdata=CARATL)  
CAR\_OP14<-predict(ARFM14,newdata=CARATL)  
CAR\_OP15<-predict(ARFM15,newdata=CARATL)  
CAR\_OP16<-predict(ARFM16,newdata=CARATL)  
CAR\_OP17<-predict(ARFM17,newdata=CARATL)  
CAR\_OP18<-predict(ARFM18,newdata=CARATL)  
CAR\_OP19<-predict(ARFM19,newdata=CARATL)  
CAR\_OP20<-predict(ARFM20,newdata=CARATL)  
CAR\_OP21<-predict(ARFM21,newdata=CARATL)  
CAR\_OP22<-predict(ARFM22,newdata=CARATL)  
CAR\_OP23<-predict(ARFM23,newdata=CARATL)  
CAR\_OP24<-predict(ARFM24,newdata=CARATL)  
CAR\_OP25<-predict(ARFM25,newdata=CARATL)  
CAR\_OP26<-predict(ARFM26,newdata=CARATL)  
CAR\_OP27<-predict(ARFM27,newdata=CARATL)  
CAR\_OP28<-predict(ARFM28,newdata=CARATL)  
CAR\_OP29<-predict(ARFM29,newdata=CARATL)  
CAR\_OP30<-predict(ARFM30,newdata=CARATL)  
CAR\_OP31<-predict(ARFM31,newdata=CARATL)  
  
  
#BUF  
BUF\_P1<-predict(IRF1,newdata=BUFNYJ)  
BUF\_P2<-predict(IRF2,newdata=BUFNYJ)  
BUF\_P3<-predict(IRF3,newdata=BUFNYJ)  
BUF\_P4<-predict(IRF4,newdata=BUFNYJ)  
BUF\_P5<-predict(IRF5,newdata=BUFNYJ)  
BUF\_P6<-predict(IRF6,newdata=BUFNYJ)  
BUF\_P7<-predict(IRF7,newdata=BUFNYJ)  
BUF\_P8<-predict(IRF8,newdata=BUFNYJ)  
BUF\_P9<-predict(IRF9,newdata=BUFNYJ)  
BUF\_P10<-predict(IRF10,newdata=BUFNYJ)  
BUF\_P11<-predict(IRF11,newdata=BUFNYJ)  
BUF\_P12<-predict(IRF12,newdata=BUFNYJ)  
BUF\_P13<-predict(IRF13,newdata=BUFNYJ)  
BUF\_P14<-predict(IRF14,newdata=BUFNYJ)  
BUF\_P15<-predict(IRF15,newdata=BUFNYJ)  
BUF\_P16<-predict(IRF16,newdata=BUFNYJ)  
BUF\_P17<-predict(IRF17,newdata=BUFNYJ)  
BUF\_P18<-predict(IRF18,newdata=BUFNYJ)  
BUF\_P19<-predict(IRF19,newdata=BUFNYJ)  
BUF\_P20<-predict(IRF20,newdata=BUFNYJ)  
BUF\_P21<-predict(IRF21,newdata=BUFNYJ)  
BUF\_OP1<-predict(ARFM1,newdata=BUFNYJ)  
BUF\_OP2<-predict(ARFM2,newdata=BUFNYJ)  
BUF\_OP3<-predict(ARFM3,newdata=BUFNYJ)  
BUF\_OP4<-predict(ARFM4,newdata=BUFNYJ)  
BUF\_OP5<-predict(ARFM5,newdata=BUFNYJ)  
BUF\_OP6<-predict(ARFM6,newdata=BUFNYJ)  
BUF\_OP7<-predict(ARFM7,newdata=BUFNYJ)  
BUF\_OP8<-predict(ARFM8,newdata=BUFNYJ)  
BUF\_OP9<-predict(ARFM9,newdata=BUFNYJ)  
BUF\_OP10<-predict(ARFM10,newdata=BUFNYJ)  
BUF\_OP11<-predict(ARFM11,newdata=BUFNYJ)  
BUF\_OP12<-predict(ARFM12,newdata=BUFNYJ)  
BUF\_OP13<-predict(ARFM13,newdata=BUFNYJ)  
BUF\_OP14<-predict(ARFM14,newdata=BUFNYJ)  
BUF\_OP15<-predict(ARFM15,newdata=BUFNYJ)  
BUF\_OP16<-predict(ARFM16,newdata=BUFNYJ)  
BUF\_OP17<-predict(ARFM17,newdata=BUFNYJ)  
BUF\_OP18<-predict(ARFM18,newdata=BUFNYJ)  
BUF\_OP19<-predict(ARFM19,newdata=BUFNYJ)  
BUF\_OP20<-predict(ARFM20,newdata=BUFNYJ)  
BUF\_OP21<-predict(ARFM21,newdata=BUFNYJ)  
BUF\_OP22<-predict(ARFM22,newdata=BUFNYJ)  
BUF\_OP23<-predict(ARFM23,newdata=BUFNYJ)  
BUF\_OP24<-predict(ARFM24,newdata=BUFNYJ)  
BUF\_OP25<-predict(ARFM25,newdata=BUFNYJ)  
BUF\_OP26<-predict(ARFM26,newdata=BUFNYJ)  
BUF\_OP27<-predict(ARFM27,newdata=BUFNYJ)  
BUF\_OP28<-predict(ARFM28,newdata=BUFNYJ)  
BUF\_OP29<-predict(ARFM29,newdata=BUFNYJ)  
BUF\_OP30<-predict(ARFM30,newdata=BUFNYJ)  
BUF\_OP31<-predict(ARFM31,newdata=BUFNYJ)  
  
  
#NYJ  
NYJ\_P1<-predict(IRF1,newdata=NYJNE)  
NYJ\_P2<-predict(IRF2,newdata=NYJNE)  
NYJ\_P3<-predict(IRF3,newdata=NYJNE)  
NYJ\_P4<-predict(IRF4,newdata=NYJNE)  
NYJ\_P5<-predict(IRF5,newdata=NYJNE)  
NYJ\_P6<-predict(IRF6,newdata=NYJNE)  
NYJ\_P7<-predict(IRF7,newdata=NYJNE)  
NYJ\_P8<-predict(IRF8,newdata=NYJNE)  
NYJ\_P9<-predict(IRF9,newdata=NYJNE)  
NYJ\_P10<-predict(IRF10,newdata=NYJNE)  
NYJ\_P11<-predict(IRF11,newdata=NYJNE)  
NYJ\_P12<-predict(IRF12,newdata=NYJNE)  
NYJ\_P13<-predict(IRF13,newdata=NYJNE)  
NYJ\_P14<-predict(IRF14,newdata=NYJNE)  
NYJ\_P15<-predict(IRF15,newdata=NYJNE)  
NYJ\_P16<-predict(IRF16,newdata=NYJNE)  
NYJ\_P17<-predict(IRF17,newdata=NYJNE)  
NYJ\_P18<-predict(IRF18,newdata=NYJNE)  
NYJ\_P19<-predict(IRF19,newdata=NYJNE)  
NYJ\_P20<-predict(IRF20,newdata=NYJNE)  
NYJ\_P21<-predict(IRF21,newdata=NYJNE)  
NYJ\_OP1<-predict(ARFM1,newdata=NYJNE)  
NYJ\_OP2<-predict(ARFM2,newdata=NYJNE)  
NYJ\_OP3<-predict(ARFM3,newdata=NYJNE)  
NYJ\_OP4<-predict(ARFM4,newdata=NYJNE)  
NYJ\_OP5<-predict(ARFM5,newdata=NYJNE)  
NYJ\_OP6<-predict(ARFM6,newdata=NYJNE)  
NYJ\_OP7<-predict(ARFM7,newdata=NYJNE)  
NYJ\_OP8<-predict(ARFM8,newdata=NYJNE)  
NYJ\_OP9<-predict(ARFM9,newdata=NYJNE)  
NYJ\_OP10<-predict(ARFM10,newdata=NYJNE)  
NYJ\_OP11<-predict(ARFM11,newdata=NYJNE)  
NYJ\_OP12<-predict(ARFM12,newdata=NYJNE)  
NYJ\_OP13<-predict(ARFM13,newdata=NYJNE)  
NYJ\_OP14<-predict(ARFM14,newdata=NYJNE)  
NYJ\_OP15<-predict(ARFM15,newdata=NYJNE)  
NYJ\_OP16<-predict(ARFM16,newdata=NYJNE)  
NYJ\_OP17<-predict(ARFM17,newdata=NYJNE)  
NYJ\_OP18<-predict(ARFM18,newdata=NYJNE)  
NYJ\_OP19<-predict(ARFM19,newdata=NYJNE)  
NYJ\_OP20<-predict(ARFM20,newdata=NYJNE)  
NYJ\_OP21<-predict(ARFM21,newdata=NYJNE)  
NYJ\_OP22<-predict(ARFM22,newdata=NYJNE)  
NYJ\_OP23<-predict(ARFM23,newdata=NYJNE)  
NYJ\_OP24<-predict(ARFM24,newdata=NYJNE)  
NYJ\_OP25<-predict(ARFM25,newdata=NYJNE)  
NYJ\_OP26<-predict(ARFM26,newdata=NYJNE)  
NYJ\_OP27<-predict(ARFM27,newdata=NYJNE)  
NYJ\_OP28<-predict(ARFM28,newdata=NYJNE)  
NYJ\_OP29<-predict(ARFM29,newdata=NYJNE)  
NYJ\_OP30<-predict(ARFM30,newdata=NYJNE)  
NYJ\_OP31<-predict(ARFM31,newdata=NYJNE)  
  
  
#CHI  
CHI\_P1<-predict(IRF1,newdata=CHIGB)  
CHI\_P2<-predict(IRF2,newdata=CHIGB)  
CHI\_P3<-predict(IRF3,newdata=CHIGB)  
CHI\_P4<-predict(IRF4,newdata=CHIGB)  
CHI\_P5<-predict(IRF5,newdata=CHIGB)  
CHI\_P6<-predict(IRF6,newdata=CHIGB)  
CHI\_P7<-predict(IRF7,newdata=CHIGB)  
CHI\_P8<-predict(IRF8,newdata=CHIGB)  
CHI\_P9<-predict(IRF9,newdata=CHIGB)  
CHI\_P10<-predict(IRF10,newdata=CHIGB)  
CHI\_P11<-predict(IRF11,newdata=CHIGB)  
CHI\_P12<-predict(IRF12,newdata=CHIGB)  
CHI\_P13<-predict(IRF13,newdata=CHIGB)  
CHI\_P14<-predict(IRF14,newdata=CHIGB)  
CHI\_P15<-predict(IRF15,newdata=CHIGB)  
CHI\_P16<-predict(IRF16,newdata=CHIGB)  
CHI\_P17<-predict(IRF17,newdata=CHIGB)  
CHI\_P18<-predict(IRF18,newdata=CHIGB)  
CHI\_P19<-predict(IRF19,newdata=CHIGB)  
CHI\_P20<-predict(IRF20,newdata=CHIGB)  
CHI\_P21<-predict(IRF21,newdata=CHIGB)  
CHI\_OP1<-predict(ARFM1,newdata=CHIGB)  
CHI\_OP2<-predict(ARFM2,newdata=CHIGB)  
CHI\_OP3<-predict(ARFM3,newdata=CHIGB)  
CHI\_OP4<-predict(ARFM4,newdata=CHIGB)  
CHI\_OP5<-predict(ARFM5,newdata=CHIGB)  
CHI\_OP6<-predict(ARFM6,newdata=CHIGB)  
CHI\_OP7<-predict(ARFM7,newdata=CHIGB)  
CHI\_OP8<-predict(ARFM8,newdata=CHIGB)  
CHI\_OP9<-predict(ARFM9,newdata=CHIGB)  
CHI\_OP10<-predict(ARFM10,newdata=CHIGB)  
CHI\_OP11<-predict(ARFM11,newdata=CHIGB)  
CHI\_OP12<-predict(ARFM12,newdata=CHIGB)  
CHI\_OP13<-predict(ARFM13,newdata=CHIGB)  
CHI\_OP14<-predict(ARFM14,newdata=CHIGB)  
CHI\_OP15<-predict(ARFM15,newdata=CHIGB)  
CHI\_OP16<-predict(ARFM16,newdata=CHIGB)  
CHI\_OP17<-predict(ARFM17,newdata=CHIGB)  
CHI\_OP18<-predict(ARFM18,newdata=CHIGB)  
CHI\_OP19<-predict(ARFM19,newdata=CHIGB)  
CHI\_OP20<-predict(ARFM20,newdata=CHIGB)  
CHI\_OP21<-predict(ARFM21,newdata=CHIGB)  
CHI\_OP22<-predict(ARFM22,newdata=CHIGB)  
CHI\_OP23<-predict(ARFM23,newdata=CHIGB)  
CHI\_OP24<-predict(ARFM24,newdata=CHIGB)  
CHI\_OP25<-predict(ARFM25,newdata=CHIGB)  
CHI\_OP26<-predict(ARFM26,newdata=CHIGB)  
CHI\_OP27<-predict(ARFM27,newdata=CHIGB)  
CHI\_OP28<-predict(ARFM28,newdata=CHIGB)  
CHI\_OP29<-predict(ARFM29,newdata=CHIGB)  
CHI\_OP30<-predict(ARFM30,newdata=CHIGB)  
CHI\_OP31<-predict(ARFM31,newdata=CHIGB)  
  
  
#GB  
GB\_P1<-predict(IRF1,newdata=GBCHI)  
GB\_P2<-predict(IRF2,newdata=GBCHI)  
GB\_P3<-predict(IRF3,newdata=GBCHI)  
GB\_P4<-predict(IRF4,newdata=GBCHI)  
GB\_P5<-predict(IRF5,newdata=GBCHI)  
GB\_P6<-predict(IRF6,newdata=GBCHI)  
GB\_P7<-predict(IRF7,newdata=GBCHI)  
GB\_P8<-predict(IRF8,newdata=GBCHI)  
GB\_P9<-predict(IRF9,newdata=GBCHI)  
GB\_P10<-predict(IRF10,newdata=GBCHI)  
GB\_P11<-predict(IRF11,newdata=GBCHI)  
GB\_P12<-predict(IRF12,newdata=GBCHI)  
GB\_P13<-predict(IRF13,newdata=GBCHI)  
GB\_P14<-predict(IRF14,newdata=GBCHI)  
GB\_P15<-predict(IRF15,newdata=GBCHI)  
GB\_P16<-predict(IRF16,newdata=GBCHI)  
GB\_P17<-predict(IRF17,newdata=GBCHI)  
GB\_P18<-predict(IRF18,newdata=GBCHI)  
GB\_P19<-predict(IRF19,newdata=GBCHI)  
GB\_P20<-predict(IRF20,newdata=GBCHI)  
GB\_P21<-predict(IRF21,newdata=GBCHI)  
GB\_OP1<-predict(ARFM1,newdata=GBCHI)  
GB\_OP2<-predict(ARFM2,newdata=GBCHI)  
GB\_OP3<-predict(ARFM3,newdata=GBCHI)  
GB\_OP4<-predict(ARFM4,newdata=GBCHI)  
GB\_OP5<-predict(ARFM5,newdata=GBCHI)  
GB\_OP6<-predict(ARFM6,newdata=GBCHI)  
GB\_OP7<-predict(ARFM7,newdata=GBCHI)  
GB\_OP8<-predict(ARFM8,newdata=GBCHI)  
GB\_OP9<-predict(ARFM9,newdata=GBCHI)  
GB\_OP10<-predict(ARFM10,newdata=GBCHI)  
GB\_OP11<-predict(ARFM11,newdata=GBCHI)  
GB\_OP12<-predict(ARFM12,newdata=GBCHI)  
GB\_OP13<-predict(ARFM13,newdata=GBCHI)  
GB\_OP14<-predict(ARFM14,newdata=GBCHI)  
GB\_OP15<-predict(ARFM15,newdata=GBCHI)  
GB\_OP16<-predict(ARFM16,newdata=GBCHI)  
GB\_OP17<-predict(ARFM17,newdata=GBCHI)  
GB\_OP18<-predict(ARFM18,newdata=GBCHI)  
GB\_OP19<-predict(ARFM19,newdata=GBCHI)  
GB\_OP20<-predict(ARFM20,newdata=GBCHI)  
GB\_OP21<-predict(ARFM21,newdata=GBCHI)  
GB\_OP22<-predict(ARFM22,newdata=GBCHI)  
GB\_OP23<-predict(ARFM23,newdata=GBCHI)  
GB\_OP24<-predict(ARFM24,newdata=GBCHI)  
GB\_OP25<-predict(ARFM25,newdata=GBCHI)  
GB\_OP26<-predict(ARFM26,newdata=GBCHI)  
GB\_OP27<-predict(ARFM27,newdata=GBCHI)  
GB\_OP28<-predict(ARFM28,newdata=GBCHI)  
GB\_OP29<-predict(ARFM29,newdata=GBCHI)  
GB\_OP30<-predict(ARFM30,newdata=GBCHI)  
GB\_OP31<-predict(ARFM31,newdata=GBCHI)  
  
  
#CIN  
CIN\_P1<-predict(IRF1,newdata=CINCLE)  
CIN\_P2<-predict(IRF2,newdata=CINCLE)  
CIN\_P3<-predict(IRF3,newdata=CINCLE)  
CIN\_P4<-predict(IRF4,newdata=CINCLE)  
CIN\_P5<-predict(IRF5,newdata=CINCLE)  
CIN\_P6<-predict(IRF6,newdata=CINCLE)  
CIN\_P7<-predict(IRF7,newdata=CINCLE)  
CIN\_P8<-predict(IRF8,newdata=CINCLE)  
CIN\_P9<-predict(IRF9,newdata=CINCLE)  
CIN\_P10<-predict(IRF10,newdata=CINCLE)  
CIN\_P11<-predict(IRF11,newdata=CINCLE)  
CIN\_P12<-predict(IRF12,newdata=CINCLE)  
CIN\_P13<-predict(IRF13,newdata=CINCLE)  
CIN\_P14<-predict(IRF14,newdata=CINCLE)  
CIN\_P15<-predict(IRF15,newdata=CINCLE)  
CIN\_P16<-predict(IRF16,newdata=CINCLE)  
CIN\_P17<-predict(IRF17,newdata=CINCLE)  
CIN\_P18<-predict(IRF18,newdata=CINCLE)  
CIN\_P19<-predict(IRF19,newdata=CINCLE)  
CIN\_P20<-predict(IRF20,newdata=CINCLE)  
CIN\_P21<-predict(IRF21,newdata=CINCLE)  
CIN\_OP1<-predict(ARFM1,newdata=CINCLE)  
CIN\_OP2<-predict(ARFM2,newdata=CINCLE)  
CIN\_OP3<-predict(ARFM3,newdata=CINCLE)  
CIN\_OP4<-predict(ARFM4,newdata=CINCLE)  
CIN\_OP5<-predict(ARFM5,newdata=CINCLE)  
CIN\_OP6<-predict(ARFM6,newdata=CINCLE)  
CIN\_OP7<-predict(ARFM7,newdata=CINCLE)  
CIN\_OP8<-predict(ARFM8,newdata=CINCLE)  
CIN\_OP9<-predict(ARFM9,newdata=CINCLE)  
CIN\_OP10<-predict(ARFM10,newdata=CINCLE)  
CIN\_OP11<-predict(ARFM11,newdata=CINCLE)  
CIN\_OP12<-predict(ARFM12,newdata=CINCLE)  
CIN\_OP13<-predict(ARFM13,newdata=CINCLE)  
CIN\_OP14<-predict(ARFM14,newdata=CINCLE)  
CIN\_OP15<-predict(ARFM15,newdata=CINCLE)  
CIN\_OP16<-predict(ARFM16,newdata=CINCLE)  
CIN\_OP17<-predict(ARFM17,newdata=CINCLE)  
CIN\_OP18<-predict(ARFM18,newdata=CINCLE)  
CIN\_OP19<-predict(ARFM19,newdata=CINCLE)  
CIN\_OP20<-predict(ARFM20,newdata=CINCLE)  
CIN\_OP21<-predict(ARFM21,newdata=CINCLE)  
CIN\_OP22<-predict(ARFM22,newdata=CINCLE)  
CIN\_OP23<-predict(ARFM23,newdata=CINCLE)  
CIN\_OP24<-predict(ARFM24,newdata=CINCLE)  
CIN\_OP25<-predict(ARFM25,newdata=CINCLE)  
CIN\_OP26<-predict(ARFM26,newdata=CINCLE)  
CIN\_OP27<-predict(ARFM27,newdata=CINCLE)  
CIN\_OP28<-predict(ARFM28,newdata=CINCLE)  
CIN\_OP29<-predict(ARFM29,newdata=CINCLE)  
CIN\_OP30<-predict(ARFM30,newdata=CINCLE)  
CIN\_OP31<-predict(ARFM31,newdata=CINCLE)  
  
  
#CLE  
CLE\_P1<-predict(IRF1,newdata=CLECIN)  
CLE\_P2<-predict(IRF2,newdata=CLECIN)  
CLE\_P3<-predict(IRF3,newdata=CLECIN)  
CLE\_P4<-predict(IRF4,newdata=CLECIN)  
CLE\_P5<-predict(IRF5,newdata=CLECIN)  
CLE\_P6<-predict(IRF6,newdata=CLECIN)  
CLE\_P7<-predict(IRF7,newdata=CLECIN)  
CLE\_P8<-predict(IRF8,newdata=CLECIN)  
CLE\_P9<-predict(IRF9,newdata=CLECIN)  
CLE\_P10<-predict(IRF10,newdata=CLECIN)  
CLE\_P11<-predict(IRF11,newdata=CLECIN)  
CLE\_P12<-predict(IRF12,newdata=CLECIN)  
CLE\_P13<-predict(IRF13,newdata=CLECIN)  
CLE\_P14<-predict(IRF14,newdata=CLECIN)  
CLE\_P15<-predict(IRF15,newdata=CLECIN)  
CLE\_P16<-predict(IRF16,newdata=CLECIN)  
CLE\_P17<-predict(IRF17,newdata=CLECIN)  
CLE\_P18<-predict(IRF18,newdata=CLECIN)  
CLE\_P19<-predict(IRF19,newdata=CLECIN)  
CLE\_P20<-predict(IRF20,newdata=CLECIN)  
CLE\_P21<-predict(IRF21,newdata=CLECIN)  
CLE\_OP1<-predict(ARFM1,newdata=CLECIN)  
CLE\_OP2<-predict(ARFM2,newdata=CLECIN)  
CLE\_OP3<-predict(ARFM3,newdata=CLECIN)  
CLE\_OP4<-predict(ARFM4,newdata=CLECIN)  
CLE\_OP5<-predict(ARFM5,newdata=CLECIN)  
CLE\_OP6<-predict(ARFM6,newdata=CLECIN)  
CLE\_OP7<-predict(ARFM7,newdata=CLECIN)  
CLE\_OP8<-predict(ARFM8,newdata=CLECIN)  
CLE\_OP9<-predict(ARFM9,newdata=CLECIN)  
CLE\_OP10<-predict(ARFM10,newdata=CLECIN)  
CLE\_OP11<-predict(ARFM11,newdata=CLECIN)  
CLE\_OP12<-predict(ARFM12,newdata=CLECIN)  
CLE\_OP13<-predict(ARFM13,newdata=CLECIN)  
CLE\_OP14<-predict(ARFM14,newdata=CLECIN)  
CLE\_OP15<-predict(ARFM15,newdata=CLECIN)  
CLE\_OP16<-predict(ARFM16,newdata=CLECIN)  
CLE\_OP17<-predict(ARFM17,newdata=CLECIN)  
CLE\_OP18<-predict(ARFM18,newdata=CLECIN)  
CLE\_OP19<-predict(ARFM19,newdata=CLECIN)  
CLE\_OP20<-predict(ARFM20,newdata=CLECIN)  
CLE\_OP21<-predict(ARFM21,newdata=CLECIN)  
CLE\_OP22<-predict(ARFM22,newdata=CLECIN)  
CLE\_OP23<-predict(ARFM23,newdata=CLECIN)  
CLE\_OP24<-predict(ARFM24,newdata=CLECIN)  
CLE\_OP25<-predict(ARFM25,newdata=CLECIN)  
CLE\_OP26<-predict(ARFM26,newdata=CLECIN)  
CLE\_OP27<-predict(ARFM27,newdata=CLECIN)  
CLE\_OP28<-predict(ARFM28,newdata=CLECIN)  
CLE\_OP29<-predict(ARFM29,newdata=CLECIN)  
CLE\_OP30<-predict(ARFM30,newdata=CLECIN)  
CLE\_OP31<-predict(ARFM31,newdata=CLECIN)  
  
  
  
#DEN  
DEN\_P1<-predict(IRF1,newdata=DENKC)  
DEN\_P2<-predict(IRF2,newdata=DENKC)  
DEN\_P3<-predict(IRF3,newdata=DENKC)  
DEN\_P4<-predict(IRF4,newdata=DENKC)  
DEN\_P5<-predict(IRF5,newdata=DENKC)  
DEN\_P6<-predict(IRF6,newdata=DENKC)  
DEN\_P7<-predict(IRF7,newdata=DENKC)  
DEN\_P8<-predict(IRF8,newdata=DENKC)  
DEN\_P9<-predict(IRF9,newdata=DENKC)  
DEN\_P10<-predict(IRF10,newdata=DENKC)  
DEN\_P11<-predict(IRF11,newdata=DENKC)  
DEN\_P12<-predict(IRF12,newdata=DENKC)  
DEN\_P13<-predict(IRF13,newdata=DENKC)  
DEN\_P14<-predict(IRF14,newdata=DENKC)  
DEN\_P15<-predict(IRF15,newdata=DENKC)  
DEN\_P16<-predict(IRF16,newdata=DENKC)  
DEN\_P17<-predict(IRF17,newdata=DENKC)  
DEN\_P18<-predict(IRF18,newdata=DENKC)  
DEN\_P19<-predict(IRF19,newdata=DENKC)  
DEN\_P20<-predict(IRF20,newdata=DENKC)  
DEN\_P21<-predict(IRF21,newdata=DENKC)  
DEN\_OP1<-predict(ARFM1,newdata=DENKC)  
DEN\_OP2<-predict(ARFM2,newdata=DENKC)  
DEN\_OP3<-predict(ARFM3,newdata=DENKC)  
DEN\_OP4<-predict(ARFM4,newdata=DENKC)  
DEN\_OP5<-predict(ARFM5,newdata=DENKC)  
DEN\_OP6<-predict(ARFM6,newdata=DENKC)  
DEN\_OP7<-predict(ARFM7,newdata=DENKC)  
DEN\_OP8<-predict(ARFM8,newdata=DENKC)  
DEN\_OP9<-predict(ARFM9,newdata=DENKC)  
DEN\_OP10<-predict(ARFM10,newdata=DENKC)  
DEN\_OP11<-predict(ARFM11,newdata=DENKC)  
DEN\_OP12<-predict(ARFM12,newdata=DENKC)  
DEN\_OP13<-predict(ARFM13,newdata=DENKC)  
DEN\_OP14<-predict(ARFM14,newdata=DENKC)  
DEN\_OP15<-predict(ARFM15,newdata=DENKC)  
DEN\_OP16<-predict(ARFM16,newdata=DENKC)  
DEN\_OP17<-predict(ARFM17,newdata=DENKC)  
DEN\_OP18<-predict(ARFM18,newdata=DENKC)  
DEN\_OP19<-predict(ARFM19,newdata=DENKC)  
DEN\_OP20<-predict(ARFM20,newdata=DENKC)  
DEN\_OP21<-predict(ARFM21,newdata=DENKC)  
DEN\_OP22<-predict(ARFM22,newdata=DENKC)  
DEN\_OP23<-predict(ARFM23,newdata=DENKC)  
DEN\_OP24<-predict(ARFM24,newdata=DENKC)  
DEN\_OP25<-predict(ARFM25,newdata=DENKC)  
DEN\_OP26<-predict(ARFM26,newdata=DENKC)  
DEN\_OP27<-predict(ARFM27,newdata=DENKC)  
DEN\_OP28<-predict(ARFM28,newdata=DENKC)  
DEN\_OP29<-predict(ARFM29,newdata=DENKC)  
DEN\_OP30<-predict(ARFM30,newdata=DENKC)  
DEN\_OP31<-predict(ARFM31,newdata=DENKC)  
  
  
#KC  
KC\_P1<-predict(IRF1,newdata=KCDEN)  
KC\_P2<-predict(IRF2,newdata=KCDEN)  
KC\_P3<-predict(IRF3,newdata=KCDEN)  
KC\_P4<-predict(IRF4,newdata=KCDEN)  
KC\_P5<-predict(IRF5,newdata=KCDEN)  
KC\_P6<-predict(IRF6,newdata=KCDEN)  
KC\_P7<-predict(IRF7,newdata=KCDEN)  
KC\_P8<-predict(IRF8,newdata=KCDEN)  
KC\_P9<-predict(IRF9,newdata=KCDEN)  
KC\_P10<-predict(IRF10,newdata=KCDEN)  
KC\_P11<-predict(IRF11,newdata=KCDEN)  
KC\_P12<-predict(IRF12,newdata=KCDEN)  
KC\_P13<-predict(IRF13,newdata=KCDEN)  
KC\_P14<-predict(IRF14,newdata=KCDEN)  
KC\_P15<-predict(IRF15,newdata=KCDEN)  
KC\_P16<-predict(IRF16,newdata=KCDEN)  
KC\_P17<-predict(IRF17,newdata=KCDEN)  
KC\_P18<-predict(IRF18,newdata=KCDEN)  
KC\_P19<-predict(IRF19,newdata=KCDEN)  
KC\_P20<-predict(IRF20,newdata=KCDEN)  
KC\_P21<-predict(IRF21,newdata=KCDEN)  
KC\_OP1<-predict(ARFM1,newdata=KCDEN)  
KC\_OP2<-predict(ARFM2,newdata=KCDEN)  
KC\_OP3<-predict(ARFM3,newdata=KCDEN)  
KC\_OP4<-predict(ARFM4,newdata=KCDEN)  
KC\_OP5<-predict(ARFM5,newdata=KCDEN)  
KC\_OP6<-predict(ARFM6,newdata=KCDEN)  
KC\_OP7<-predict(ARFM7,newdata=KCDEN)  
KC\_OP8<-predict(ARFM8,newdata=KCDEN)  
KC\_OP9<-predict(ARFM9,newdata=KCDEN)  
KC\_OP10<-predict(ARFM10,newdata=KCDEN)  
KC\_OP11<-predict(ARFM11,newdata=KCDEN)  
KC\_OP12<-predict(ARFM12,newdata=KCDEN)  
KC\_OP13<-predict(ARFM13,newdata=KCDEN)  
KC\_OP14<-predict(ARFM14,newdata=KCDEN)  
KC\_OP15<-predict(ARFM15,newdata=KCDEN)  
KC\_OP16<-predict(ARFM16,newdata=KCDEN)  
KC\_OP17<-predict(ARFM17,newdata=KCDEN)  
KC\_OP18<-predict(ARFM18,newdata=KCDEN)  
KC\_OP19<-predict(ARFM19,newdata=KCDEN)  
KC\_OP20<-predict(ARFM20,newdata=KCDEN)  
KC\_OP21<-predict(ARFM21,newdata=KCDEN)  
KC\_OP22<-predict(ARFM22,newdata=KCDEN)  
KC\_OP23<-predict(ARFM23,newdata=KCDEN)  
KC\_OP24<-predict(ARFM24,newdata=KCDEN)  
KC\_OP25<-predict(ARFM25,newdata=KCDEN)  
KC\_OP26<-predict(ARFM26,newdata=KCDEN)  
KC\_OP27<-predict(ARFM27,newdata=KCDEN)  
KC\_OP28<-predict(ARFM28,newdata=KCDEN)  
KC\_OP29<-predict(ARFM29,newdata=KCDEN)  
KC\_OP30<-predict(ARFM30,newdata=KCDEN)  
KC\_OP31<-predict(ARFM31,newdata=KCDEN)  
  
  
#DET  
DET\_P1<-predict(IRF1,newdata=DETMIN)  
DET\_P2<-predict(IRF2,newdata=DETMIN)  
DET\_P3<-predict(IRF3,newdata=DETMIN)  
DET\_P4<-predict(IRF4,newdata=DETMIN)  
DET\_P5<-predict(IRF5,newdata=DETMIN)  
DET\_P6<-predict(IRF6,newdata=DETMIN)  
DET\_P7<-predict(IRF7,newdata=DETMIN)  
DET\_P8<-predict(IRF8,newdata=DETMIN)  
DET\_P9<-predict(IRF9,newdata=DETMIN)  
DET\_P10<-predict(IRF10,newdata=DETMIN)  
DET\_P11<-predict(IRF11,newdata=DETMIN)  
DET\_P12<-predict(IRF12,newdata=DETMIN)  
DET\_P13<-predict(IRF13,newdata=DETMIN)  
DET\_P14<-predict(IRF14,newdata=DETMIN)  
DET\_P15<-predict(IRF15,newdata=DETMIN)  
DET\_P16<-predict(IRF16,newdata=DETMIN)  
DET\_P17<-predict(IRF17,newdata=DETMIN)  
DET\_P18<-predict(IRF18,newdata=DETMIN)  
DET\_P19<-predict(IRF19,newdata=DETMIN)  
DET\_P20<-predict(IRF20,newdata=DETMIN)  
DET\_P21<-predict(IRF21,newdata=DETMIN)  
DET\_OP1<-predict(ARFM1,newdata=DETMIN)  
DET\_OP2<-predict(ARFM2,newdata=DETMIN)  
DET\_OP3<-predict(ARFM3,newdata=DETMIN)  
DET\_OP4<-predict(ARFM4,newdata=DETMIN)  
DET\_OP5<-predict(ARFM5,newdata=DETMIN)  
DET\_OP6<-predict(ARFM6,newdata=DETMIN)  
DET\_OP7<-predict(ARFM7,newdata=DETMIN)  
DET\_OP8<-predict(ARFM8,newdata=DETMIN)  
DET\_OP9<-predict(ARFM9,newdata=DETMIN)  
DET\_OP10<-predict(ARFM10,newdata=DETMIN)  
DET\_OP11<-predict(ARFM11,newdata=DETMIN)  
DET\_OP12<-predict(ARFM12,newdata=DETMIN)  
DET\_OP13<-predict(ARFM13,newdata=DETMIN)  
DET\_OP14<-predict(ARFM14,newdata=DETMIN)  
DET\_OP15<-predict(ARFM15,newdata=DETMIN)  
DET\_OP16<-predict(ARFM16,newdata=DETMIN)  
DET\_OP17<-predict(ARFM17,newdata=DETMIN)  
DET\_OP18<-predict(ARFM18,newdata=DETMIN)  
DET\_OP19<-predict(ARFM19,newdata=DETMIN)  
DET\_OP20<-predict(ARFM20,newdata=DETMIN)  
DET\_OP21<-predict(ARFM21,newdata=DETMIN)  
DET\_OP22<-predict(ARFM22,newdata=DETMIN)  
DET\_OP23<-predict(ARFM23,newdata=DETMIN)  
DET\_OP24<-predict(ARFM24,newdata=DETMIN)  
DET\_OP25<-predict(ARFM25,newdata=DETMIN)  
DET\_OP26<-predict(ARFM26,newdata=DETMIN)  
DET\_OP27<-predict(ARFM27,newdata=DETMIN)  
DET\_OP28<-predict(ARFM28,newdata=DETMIN)  
DET\_OP29<-predict(ARFM29,newdata=DETMIN)  
DET\_OP30<-predict(ARFM30,newdata=DETMIN)  
DET\_OP31<-predict(ARFM31,newdata=DETMIN)  
  
#MIN  
MIN\_P1<-predict(IRF1,newdata=MINDET)  
MIN\_P2<-predict(IRF2,newdata=MINDET)  
MIN\_P3<-predict(IRF3,newdata=MINDET)  
MIN\_P4<-predict(IRF4,newdata=MINDET)  
MIN\_P5<-predict(IRF5,newdata=MINDET)  
MIN\_P6<-predict(IRF6,newdata=MINDET)  
MIN\_P7<-predict(IRF7,newdata=MINDET)  
MIN\_P8<-predict(IRF8,newdata=MINDET)  
MIN\_P9<-predict(IRF9,newdata=MINDET)  
MIN\_P10<-predict(IRF10,newdata=MINDET)  
MIN\_P11<-predict(IRF11,newdata=MINDET)  
MIN\_P12<-predict(IRF12,newdata=MINDET)  
MIN\_P13<-predict(IRF13,newdata=MINDET)  
MIN\_P14<-predict(IRF14,newdata=MINDET)  
MIN\_P15<-predict(IRF15,newdata=MINDET)  
MIN\_P16<-predict(IRF16,newdata=MINDET)  
MIN\_P17<-predict(IRF17,newdata=MINDET)  
MIN\_P18<-predict(IRF18,newdata=MINDET)  
MIN\_P19<-predict(IRF19,newdata=MINDET)  
MIN\_P20<-predict(IRF20,newdata=MINDET)  
MIN\_P21<-predict(IRF21,newdata=MINDET)  
MIN\_OP1<-predict(ARFM1,newdata=MINDET)  
MIN\_OP2<-predict(ARFM2,newdata=MINDET)  
MIN\_OP3<-predict(ARFM3,newdata=MINDET)  
MIN\_OP4<-predict(ARFM4,newdata=MINDET)  
MIN\_OP5<-predict(ARFM5,newdata=MINDET)  
MIN\_OP6<-predict(ARFM6,newdata=MINDET)  
MIN\_OP7<-predict(ARFM7,newdata=MINDET)  
MIN\_OP8<-predict(ARFM8,newdata=MINDET)  
MIN\_OP9<-predict(ARFM9,newdata=MINDET)  
MIN\_OP10<-predict(ARFM10,newdata=MINDET)  
MIN\_OP11<-predict(ARFM11,newdata=MINDET)  
MIN\_OP12<-predict(ARFM12,newdata=MINDET)  
MIN\_OP13<-predict(ARFM13,newdata=MINDET)  
MIN\_OP14<-predict(ARFM14,newdata=MINDET)  
MIN\_OP15<-predict(ARFM15,newdata=MINDET)  
MIN\_OP16<-predict(ARFM16,newdata=MINDET)  
MIN\_OP17<-predict(ARFM17,newdata=MINDET)  
MIN\_OP18<-predict(ARFM18,newdata=MINDET)  
MIN\_OP19<-predict(ARFM19,newdata=MINDET)  
MIN\_OP20<-predict(ARFM20,newdata=MINDET)  
MIN\_OP21<-predict(ARFM21,newdata=MINDET)  
MIN\_OP22<-predict(ARFM22,newdata=MINDET)  
MIN\_OP23<-predict(ARFM23,newdata=MINDET)  
MIN\_OP24<-predict(ARFM24,newdata=MINDET)  
MIN\_OP25<-predict(ARFM25,newdata=MINDET)  
MIN\_OP26<-predict(ARFM26,newdata=MINDET)  
MIN\_OP27<-predict(ARFM27,newdata=MINDET)  
MIN\_OP28<-predict(ARFM28,newdata=MINDET)  
MIN\_OP29<-predict(ARFM29,newdata=MINDET)  
MIN\_OP30<-predict(ARFM30,newdata=MINDET)  
MIN\_OP31<-predict(ARFM31,newdata=MINDET)  
  
  
#IND  
IND\_P1<-predict(IRF1,newdata=INDTEN)  
IND\_P2<-predict(IRF2,newdata=INDTEN)  
IND\_P3<-predict(IRF3,newdata=INDTEN)  
IND\_P4<-predict(IRF4,newdata=INDTEN)  
IND\_P5<-predict(IRF5,newdata=INDTEN)  
IND\_P6<-predict(IRF6,newdata=INDTEN)  
IND\_P7<-predict(IRF7,newdata=INDTEN)  
IND\_P8<-predict(IRF8,newdata=INDTEN)  
IND\_P9<-predict(IRF9,newdata=INDTEN)  
IND\_P10<-predict(IRF10,newdata=INDTEN)  
IND\_P11<-predict(IRF11,newdata=INDTEN)  
IND\_P12<-predict(IRF12,newdata=INDTEN)  
IND\_P13<-predict(IRF13,newdata=INDTEN)  
IND\_P14<-predict(IRF14,newdata=INDTEN)  
IND\_P15<-predict(IRF15,newdata=INDTEN)  
IND\_P16<-predict(IRF16,newdata=INDTEN)  
IND\_P17<-predict(IRF17,newdata=INDTEN)  
IND\_P18<-predict(IRF18,newdata=INDTEN)  
IND\_P19<-predict(IRF19,newdata=INDTEN)  
IND\_P20<-predict(IRF20,newdata=INDTEN)  
IND\_P21<-predict(IRF21,newdata=INDTEN)  
IND\_OP1<-predict(ARFM1,newdata=INDTEN)  
IND\_OP2<-predict(ARFM2,newdata=INDTEN)  
IND\_OP3<-predict(ARFM3,newdata=INDTEN)  
IND\_OP4<-predict(ARFM4,newdata=INDTEN)  
IND\_OP5<-predict(ARFM5,newdata=INDTEN)  
IND\_OP6<-predict(ARFM6,newdata=INDTEN)  
IND\_OP7<-predict(ARFM7,newdata=INDTEN)  
IND\_OP8<-predict(ARFM8,newdata=INDTEN)  
IND\_OP9<-predict(ARFM9,newdata=INDTEN)  
IND\_OP10<-predict(ARFM10,newdata=INDTEN)  
IND\_OP11<-predict(ARFM11,newdata=INDTEN)  
IND\_OP12<-predict(ARFM12,newdata=INDTEN)  
IND\_OP13<-predict(ARFM13,newdata=INDTEN)  
IND\_OP14<-predict(ARFM14,newdata=INDTEN)  
IND\_OP15<-predict(ARFM15,newdata=INDTEN)  
IND\_OP16<-predict(ARFM16,newdata=INDTEN)  
IND\_OP17<-predict(ARFM17,newdata=INDTEN)  
IND\_OP18<-predict(ARFM18,newdata=INDTEN)  
IND\_OP19<-predict(ARFM19,newdata=INDTEN)  
IND\_OP20<-predict(ARFM20,newdata=INDTEN)  
IND\_OP21<-predict(ARFM21,newdata=INDTEN)  
IND\_OP22<-predict(ARFM22,newdata=INDTEN)  
IND\_OP23<-predict(ARFM23,newdata=INDTEN)  
IND\_OP24<-predict(ARFM24,newdata=INDTEN)  
IND\_OP25<-predict(ARFM25,newdata=INDTEN)  
IND\_OP26<-predict(ARFM26,newdata=INDTEN)  
IND\_OP27<-predict(ARFM27,newdata=INDTEN)  
IND\_OP28<-predict(ARFM28,newdata=INDTEN)  
IND\_OP29<-predict(ARFM29,newdata=INDTEN)  
IND\_OP30<-predict(ARFM30,newdata=INDTEN)  
IND\_OP31<-predict(ARFM31,newdata=INDTEN)  
  
  
#TEN  
TEN\_P1<-predict(IRF1,newdata=TENIND)  
TEN\_P2<-predict(IRF2,newdata=TENIND)  
TEN\_P3<-predict(IRF3,newdata=TENIND)  
TEN\_P4<-predict(IRF4,newdata=TENIND)  
TEN\_P5<-predict(IRF5,newdata=TENIND)  
TEN\_P6<-predict(IRF6,newdata=TENIND)  
TEN\_P7<-predict(IRF7,newdata=TENIND)  
TEN\_P8<-predict(IRF8,newdata=TENIND)  
TEN\_P9<-predict(IRF9,newdata=TENIND)  
TEN\_P10<-predict(IRF10,newdata=TENIND)  
TEN\_P11<-predict(IRF11,newdata=TENIND)  
TEN\_P12<-predict(IRF12,newdata=TENIND)  
TEN\_P13<-predict(IRF13,newdata=TENIND)  
TEN\_P14<-predict(IRF14,newdata=TENIND)  
TEN\_P15<-predict(IRF15,newdata=TENIND)  
TEN\_P16<-predict(IRF16,newdata=TENIND)  
TEN\_P17<-predict(IRF17,newdata=TENIND)  
TEN\_P18<-predict(IRF18,newdata=TENIND)  
TEN\_P19<-predict(IRF19,newdata=TENIND)  
TEN\_P20<-predict(IRF20,newdata=TENIND)  
TEN\_P21<-predict(IRF21,newdata=TENIND)  
TEN\_OP1<-predict(ARFM1,newdata=TENIND)  
TEN\_OP2<-predict(ARFM2,newdata=TENIND)  
TEN\_OP3<-predict(ARFM3,newdata=TENIND)  
TEN\_OP4<-predict(ARFM4,newdata=TENIND)  
TEN\_OP5<-predict(ARFM5,newdata=TENIND)  
TEN\_OP6<-predict(ARFM6,newdata=TENIND)  
TEN\_OP7<-predict(ARFM7,newdata=TENIND)  
TEN\_OP8<-predict(ARFM8,newdata=TENIND)  
TEN\_OP9<-predict(ARFM9,newdata=TENIND)  
TEN\_OP10<-predict(ARFM10,newdata=TENIND)  
TEN\_OP11<-predict(ARFM11,newdata=TENIND)  
TEN\_OP12<-predict(ARFM12,newdata=TENIND)  
TEN\_OP13<-predict(ARFM13,newdata=TENIND)  
TEN\_OP14<-predict(ARFM14,newdata=TENIND)  
TEN\_OP15<-predict(ARFM15,newdata=TENIND)  
TEN\_OP16<-predict(ARFM16,newdata=TENIND)  
TEN\_OP17<-predict(ARFM17,newdata=TENIND)  
TEN\_OP18<-predict(ARFM18,newdata=TENIND)  
TEN\_OP19<-predict(ARFM19,newdata=TENIND)  
TEN\_OP20<-predict(ARFM20,newdata=TENIND)  
TEN\_OP21<-predict(ARFM21,newdata=TENIND)  
TEN\_OP22<-predict(ARFM22,newdata=TENIND)  
TEN\_OP23<-predict(ARFM23,newdata=TENIND)  
TEN\_OP24<-predict(ARFM24,newdata=TENIND)  
TEN\_OP25<-predict(ARFM25,newdata=TENIND)  
TEN\_OP26<-predict(ARFM26,newdata=TENIND)  
TEN\_OP27<-predict(ARFM27,newdata=TENIND)  
TEN\_OP28<-predict(ARFM28,newdata=TENIND)  
TEN\_OP29<-predict(ARFM29,newdata=TENIND)  
TEN\_OP30<-predict(ARFM30,newdata=TENIND)  
TEN\_OP31<-predict(ARFM31,newdata=TENIND)  
  
  
#JAX  
JAX\_P1<-predict(IRF1,newdata=JAXIND)  
JAX\_P2<-predict(IRF2,newdata=JAXIND)  
JAX\_P3<-predict(IRF3,newdata=JAXIND)  
JAX\_P4<-predict(IRF4,newdata=JAXIND)  
JAX\_P5<-predict(IRF5,newdata=JAXIND)  
JAX\_P6<-predict(IRF6,newdata=JAXIND)  
JAX\_P7<-predict(IRF7,newdata=JAXIND)  
JAX\_P8<-predict(IRF8,newdata=JAXIND)  
JAX\_P9<-predict(IRF9,newdata=JAXIND)  
JAX\_P10<-predict(IRF10,newdata=JAXIND)  
JAX\_P11<-predict(IRF11,newdata=JAXIND)  
JAX\_P12<-predict(IRF12,newdata=JAXIND)  
JAX\_P13<-predict(IRF13,newdata=JAXIND)  
JAX\_P14<-predict(IRF14,newdata=JAXIND)  
JAX\_P15<-predict(IRF15,newdata=JAXIND)  
JAX\_P16<-predict(IRF16,newdata=JAXIND)  
JAX\_P17<-predict(IRF17,newdata=JAXIND)  
JAX\_P18<-predict(IRF18,newdata=JAXIND)  
JAX\_P19<-predict(IRF19,newdata=JAXIND)  
JAX\_P20<-predict(IRF20,newdata=JAXIND)  
JAX\_P21<-predict(IRF21,newdata=JAXIND)  
JAX\_OP1<-predict(ARFM1,newdata=JAXIND)  
JAX\_OP2<-predict(ARFM2,newdata=JAXIND)  
JAX\_OP3<-predict(ARFM3,newdata=JAXIND)  
JAX\_OP4<-predict(ARFM4,newdata=JAXIND)  
JAX\_OP5<-predict(ARFM5,newdata=JAXIND)  
JAX\_OP6<-predict(ARFM6,newdata=JAXIND)  
JAX\_OP7<-predict(ARFM7,newdata=JAXIND)  
JAX\_OP8<-predict(ARFM8,newdata=JAXIND)  
JAX\_OP9<-predict(ARFM9,newdata=JAXIND)  
JAX\_OP10<-predict(ARFM10,newdata=JAXIND)  
JAX\_OP11<-predict(ARFM11,newdata=JAXIND)  
JAX\_OP12<-predict(ARFM12,newdata=JAXIND)  
JAX\_OP13<-predict(ARFM13,newdata=JAXIND)  
JAX\_OP14<-predict(ARFM14,newdata=JAXIND)  
JAX\_OP15<-predict(ARFM15,newdata=JAXIND)  
JAX\_OP16<-predict(ARFM16,newdata=JAXIND)  
JAX\_OP17<-predict(ARFM17,newdata=JAXIND)  
JAX\_OP18<-predict(ARFM18,newdata=JAXIND)  
JAX\_OP19<-predict(ARFM19,newdata=JAXIND)  
JAX\_OP20<-predict(ARFM20,newdata=JAXIND)  
JAX\_OP21<-predict(ARFM21,newdata=JAXIND)  
JAX\_OP22<-predict(ARFM22,newdata=JAXIND)  
JAX\_OP23<-predict(ARFM23,newdata=JAXIND)  
JAX\_OP24<-predict(ARFM24,newdata=JAXIND)  
JAX\_OP25<-predict(ARFM25,newdata=JAXIND)  
JAX\_OP26<-predict(ARFM26,newdata=JAXIND)  
JAX\_OP27<-predict(ARFM27,newdata=JAXIND)  
JAX\_OP28<-predict(ARFM28,newdata=JAXIND)  
JAX\_OP29<-predict(ARFM29,newdata=JAXIND)  
JAX\_OP30<-predict(ARFM30,newdata=JAXIND)  
JAX\_OP31<-predict(ARFM31,newdata=JAXIND)  
  
  
#PHI  
PHI\_P1<-predict(IRF1,newdata=PHIWAS)  
PHI\_P2<-predict(IRF2,newdata=PHIWAS)  
PHI\_P3<-predict(IRF3,newdata=PHIWAS)  
PHI\_P4<-predict(IRF4,newdata=PHIWAS)  
PHI\_P5<-predict(IRF5,newdata=PHIWAS)  
PHI\_P6<-predict(IRF6,newdata=PHIWAS)  
PHI\_P7<-predict(IRF7,newdata=PHIWAS)  
PHI\_P8<-predict(IRF8,newdata=PHIWAS)  
PHI\_P9<-predict(IRF9,newdata=PHIWAS)  
PHI\_P10<-predict(IRF10,newdata=PHIWAS)  
PHI\_P11<-predict(IRF11,newdata=PHIWAS)  
PHI\_P12<-predict(IRF12,newdata=PHIWAS)  
PHI\_P13<-predict(IRF13,newdata=PHIWAS)  
PHI\_P14<-predict(IRF14,newdata=PHIWAS)  
PHI\_P15<-predict(IRF15,newdata=PHIWAS)  
PHI\_P16<-predict(IRF16,newdata=PHIWAS)  
PHI\_P17<-predict(IRF17,newdata=PHIWAS)  
PHI\_P18<-predict(IRF18,newdata=PHIWAS)  
PHI\_P19<-predict(IRF19,newdata=PHIWAS)  
PHI\_P20<-predict(IRF20,newdata=PHIWAS)  
PHI\_P21<-predict(IRF21,newdata=PHIWAS)  
PHI\_OP1<-predict(ARFM1,newdata=PHIWAS)  
PHI\_OP2<-predict(ARFM2,newdata=PHIWAS)  
PHI\_OP3<-predict(ARFM3,newdata=PHIWAS)  
PHI\_OP4<-predict(ARFM4,newdata=PHIWAS)  
PHI\_OP5<-predict(ARFM5,newdata=PHIWAS)  
PHI\_OP6<-predict(ARFM6,newdata=PHIWAS)  
PHI\_OP7<-predict(ARFM7,newdata=PHIWAS)  
PHI\_OP8<-predict(ARFM8,newdata=PHIWAS)  
PHI\_OP9<-predict(ARFM9,newdata=PHIWAS)  
PHI\_OP10<-predict(ARFM10,newdata=PHIWAS)  
PHI\_OP11<-predict(ARFM11,newdata=PHIWAS)  
PHI\_OP12<-predict(ARFM12,newdata=PHIWAS)  
PHI\_OP13<-predict(ARFM13,newdata=PHIWAS)  
PHI\_OP14<-predict(ARFM14,newdata=PHIWAS)  
PHI\_OP15<-predict(ARFM15,newdata=PHIWAS)  
PHI\_OP16<-predict(ARFM16,newdata=PHIWAS)  
PHI\_OP17<-predict(ARFM17,newdata=PHIWAS)  
PHI\_OP18<-predict(ARFM18,newdata=PHIWAS)  
PHI\_OP19<-predict(ARFM19,newdata=PHIWAS)  
PHI\_OP20<-predict(ARFM20,newdata=PHIWAS)  
PHI\_OP21<-predict(ARFM21,newdata=PHIWAS)  
PHI\_OP22<-predict(ARFM22,newdata=PHIWAS)  
PHI\_OP23<-predict(ARFM23,newdata=PHIWAS)  
PHI\_OP24<-predict(ARFM24,newdata=PHIWAS)  
PHI\_OP25<-predict(ARFM25,newdata=PHIWAS)  
PHI\_OP26<-predict(ARFM26,newdata=PHIWAS)  
PHI\_OP27<-predict(ARFM27,newdata=PHIWAS)  
PHI\_OP28<-predict(ARFM28,newdata=PHIWAS)  
PHI\_OP29<-predict(ARFM29,newdata=PHIWAS)  
PHI\_OP30<-predict(ARFM30,newdata=PHIWAS)  
PHI\_OP31<-predict(ARFM31,newdata=PHIWAS)  
  
  
#WAS  
WAS\_P1<-predict(IRF1,newdata=WASPHI)  
WAS\_P2<-predict(IRF2,newdata=WASPHI)  
WAS\_P3<-predict(IRF3,newdata=WASPHI)  
WAS\_P4<-predict(IRF4,newdata=WASPHI)  
WAS\_P5<-predict(IRF5,newdata=WASPHI)  
WAS\_P6<-predict(IRF6,newdata=WASPHI)  
WAS\_P7<-predict(IRF7,newdata=WASPHI)  
WAS\_P8<-predict(IRF8,newdata=WASPHI)  
WAS\_P9<-predict(IRF9,newdata=WASPHI)  
WAS\_P10<-predict(IRF10,newdata=WASPHI)  
WAS\_P11<-predict(IRF11,newdata=WASPHI)  
WAS\_P12<-predict(IRF12,newdata=WASPHI)  
WAS\_P13<-predict(IRF13,newdata=WASPHI)  
WAS\_P14<-predict(IRF14,newdata=WASPHI)  
WAS\_P15<-predict(IRF15,newdata=WASPHI)  
WAS\_P16<-predict(IRF16,newdata=WASPHI)  
WAS\_P17<-predict(IRF17,newdata=WASPHI)  
WAS\_P18<-predict(IRF18,newdata=WASPHI)  
WAS\_P19<-predict(IRF19,newdata=WASPHI)  
WAS\_P20<-predict(IRF20,newdata=WASPHI)  
WAS\_P21<-predict(IRF21,newdata=WASPHI)  
WAS\_OP1<-predict(ARFM1,newdata=WASPHI)  
WAS\_OP2<-predict(ARFM2,newdata=WASPHI)  
WAS\_OP3<-predict(ARFM3,newdata=WASPHI)  
WAS\_OP4<-predict(ARFM4,newdata=WASPHI)  
WAS\_OP5<-predict(ARFM5,newdata=WASPHI)  
WAS\_OP6<-predict(ARFM6,newdata=WASPHI)  
WAS\_OP7<-predict(ARFM7,newdata=WASPHI)  
WAS\_OP8<-predict(ARFM8,newdata=WASPHI)  
WAS\_OP9<-predict(ARFM9,newdata=WASPHI)  
WAS\_OP10<-predict(ARFM10,newdata=WASPHI)  
WAS\_OP11<-predict(ARFM11,newdata=WASPHI)  
WAS\_OP12<-predict(ARFM12,newdata=WASPHI)  
WAS\_OP13<-predict(ARFM13,newdata=WASPHI)  
WAS\_OP14<-predict(ARFM14,newdata=WASPHI)  
WAS\_OP15<-predict(ARFM15,newdata=WASPHI)  
WAS\_OP16<-predict(ARFM16,newdata=WASPHI)  
WAS\_OP17<-predict(ARFM17,newdata=WASPHI)  
WAS\_OP18<-predict(ARFM18,newdata=WASPHI)  
WAS\_OP19<-predict(ARFM19,newdata=WASPHI)  
WAS\_OP20<-predict(ARFM20,newdata=WASPHI)  
WAS\_OP21<-predict(ARFM21,newdata=WASPHI)  
WAS\_OP22<-predict(ARFM22,newdata=WASPHI)  
WAS\_OP23<-predict(ARFM23,newdata=WASPHI)  
WAS\_OP24<-predict(ARFM24,newdata=WASPHI)  
WAS\_OP25<-predict(ARFM25,newdata=WASPHI)  
WAS\_OP26<-predict(ARFM26,newdata=WASPHI)  
WAS\_OP27<-predict(ARFM27,newdata=WASPHI)  
WAS\_OP28<-predict(ARFM28,newdata=WASPHI)  
WAS\_OP29<-predict(ARFM29,newdata=WASPHI)  
WAS\_OP30<-predict(ARFM30,newdata=WASPHI)  
WAS\_OP31<-predict(ARFM31,newdata=WASPHI)

NEET\_P1

## 1   
## 0.7451667

NEET\_P2

## 1   
## 25.1946

NEET\_P3

## 1   
## 24.14983

NEET\_P4

## 1   
## 22.09483

NEET\_P5

## 1   
## 220.1165

NEET\_P6

## 1   
## 128.8325

NEET\_P7

## 1   
## 0.9126667

NEET\_P8

## 1   
## 20.4481

NEET\_P9

## 1   
## 239.64

NEET\_P10

## 1   
## 118.0645

NEET\_P11

## 1   
## 0.6085

NEET\_P12

## 1   
## 32.5907

NEET\_P13

## 1   
## 1.3971

NEET\_P14

## 1   
## 0.3805667

NEET\_P15

## 1   
## 18.1882

NEET\_P16

## 1   
## 0.5711333

NEET\_P17

## 1   
## 34.1557

NEET\_P18

## 1   
## 1.2918

NEET\_P19

## 1   
## 0.5266333

NEET\_P20

## 1   
## 18.52847

NEET\_P21

## 1   
## 0.5564333

NEET\_OP1

## 1   
## 0.6695333

NEET\_OP2

## 1   
## 23.33597

NEET\_OP3

## 1   
## 22.59697

NEET\_OP4

## 1   
## 21.85537

NEET\_OP5

## 1   
## 262.8208

NEET\_OP6

## 1   
## 118.9133

NEET\_OP7

## 1   
## 1.201567

NEET\_OP8

## 1   
## 19.31987

NEET\_OP9

## 1   
## 227.4592

NEET\_OP10

## 1   
## 103.4084

NEET\_OP11

## 1   
## 0.7971667

NEET\_OP12

## 1   
## 2.727128

NEET\_OP13

## 1   
## 5.994673

NEET\_OP14

## 1   
## 16.23226

NEET\_OP15

## 1   
## 37.43968

NEET\_OP16

## 1   
## -1.315243

NEET\_OP17

## 1   
## 37.74177

NEET\_OP18

## 1   
## 1.683967

NEET\_OP19

## 1   
## 0.7036333

NEET\_OP20

## 1   
## 63.08428

NEET\_OP21

## 1   
## 17.63307

NEET\_OP22

## 1   
## 0.5470333

NEET\_OP23

## 1   
## 3.727693

NEET\_OP24

## 1   
## 21.42474

NEET\_OP25

## 1   
## 2.760536

NEET\_OP26

## 1   
## 4.297328

NEET\_OP27

## 1   
## 5.747973

NEET\_OP28

## 1   
## 2.829635

NEET\_OP29

## 1   
## 8.946734

NEET\_OP30

## 1   
## 65.20342

NEET\_OP31

## 1   
## 4.787087

BAL\_P1

## 1   
## 0.8023

BAL\_P2

## 1   
## 24.0351

BAL\_P3

## 1   
## 19.8394

BAL\_P4

## 1   
## 21.48047

BAL\_P5

## 1   
## 218.9777

BAL\_P6

## 1   
## 133.3944

BAL\_P7

## 1   
## 1.02

BAL\_P8

## 1   
## 20.2639

BAL\_P9

## 1   
## 230.0149

BAL\_P10

## 1   
## 104.1359

BAL\_P11

## 1   
## 0.5802333

BAL\_P12

## 1   
## 32.43877

BAL\_P13

## 1   
## 1.470367

BAL\_P14

## 1   
## 0.4775333

BAL\_P15

## 1   
## 17.31523

BAL\_P16

## 1   
## 0.3921

BAL\_P17

## 1   
## 33.652

BAL\_P18

## 1   
## 1.192733

BAL\_P19

## 1   
## 0.3675667

BAL\_P20

## 1   
## 16.74173

BAL\_P21

## 1   
## 0.4047

BAL\_OP1

## 1   
## 0.6233333

BAL\_OP2

## 1   
## 26.47707

BAL\_OP3

## 1   
## 23.4308

BAL\_OP4

## 1   
## 21.9026

BAL\_OP5

## 1   
## 262.7905

BAL\_OP6

## 1   
## 128.2427

BAL\_OP7

## 1   
## 1.271167

BAL\_OP8

## 1   
## 20.1545

BAL\_OP9

## 1   
## 228.6666

BAL\_OP10

## 1   
## 105.1929

BAL\_OP11

## 1   
## 0.9244333

BAL\_OP12

## 1   
## 2.847105

BAL\_OP13

## 1   
## 6.201303

BAL\_OP14

## 1   
## 15.40108

BAL\_OP15

## 1   
## 38.60389

BAL\_OP16

## 1   
## -0.7118567

BAL\_OP17

## 1   
## 36.44677

BAL\_OP18

## 1   
## 1.7919

BAL\_OP19

## 1   
## 0.3495333

BAL\_OP20

## 1   
## 61.61588

BAL\_OP21

## 1   
## 17.57137

BAL\_OP22

## 1   
## 0.5080667

BAL\_OP23

## 1   
## 3.584051

BAL\_OP24

## 1   
## 20.63776

BAL\_OP25

## 1   
## 2.77835

BAL\_OP26

## 1   
## 4.592973

BAL\_OP27

## 1   
## 5.89633

BAL\_OP28

## 1   
## 2.832373

BAL\_OP29

## 1   
## 9.612982

BAL\_OP30

## 1   
## 65.93813

BAL\_OP31

## 1   
## 4.60529

PIT\_P1

## 1   
## 0.6829

PIT\_P2

## 1   
## 26.5475

PIT\_P3

## 1   
## 28.51617

PIT\_P4

## 1   
## 22.38047

PIT\_P5

## 1   
## 219.7296

PIT\_P6

## 1   
## 126.5604

PIT\_P7

## 1   
## 1.141867

PIT\_P8

## 1   
## 20.22353

PIT\_P9

## 1   
## 241.3651

PIT\_P10

## 1   
## 122.7529

PIT\_P11

## 1   
## 0.6863

PIT\_P12

## 1   
## 32.9545

PIT\_P13

## 1   
## 1.2894

PIT\_P14

## 1   
## 0.2711

PIT\_P15

## 1   
## 18.62583

PIT\_P16

## 1   
## 0.4246

PIT\_P17

## 1   
## 33.6982

PIT\_P18

## 1   
## 1.3293

PIT\_P19

## 1   
## 0.7071667

PIT\_P20

## 1   
## 16.89847

PIT\_P21

## 1   
## 0.7458667

PIT\_OP1

## 1   
## 0.5810667

PIT\_OP2

## 1   
## 22.7505

PIT\_OP3

## 1   
## 22.31163

PIT\_OP4

## 1   
## 22.324

PIT\_OP5

## 1   
## 258.9401

PIT\_OP6

## 1   
## 115.0186

PIT\_OP7

## 1   
## 1.2225

PIT\_OP8

## 1   
## 18.10533

PIT\_OP9

## 1   
## 223.0481

PIT\_OP10

## 1   
## 106.2099

PIT\_OP11

## 1   
## 0.9718667

PIT\_OP12

## 1   
## 2.660109

PIT\_OP13

## 1   
## 4.835337

PIT\_OP14

## 1   
## 16.80063

PIT\_OP15

## 1   
## 35.18952

PIT\_OP16

## 1   
## -2.016503

PIT\_OP17

## 1   
## 37.2593

PIT\_OP18

## 1   
## 1.358

PIT\_OP19

## 1   
## 0.4976333

PIT\_OP20

## 1   
## 65.10666

PIT\_OP21

## 1   
## 19.33793

PIT\_OP22

## 1   
## 0.5202667

PIT\_OP23

## 1   
## 4.151392

PIT\_OP24

## 1   
## 17.82944

PIT\_OP25

## 1   
## 2.775834

PIT\_OP26

## 1   
## 3.956314

PIT\_OP27

## 1   
## 5.686436

PIT\_OP28

## 1   
## 2.828861

PIT\_OP29

## 1   
## 9.109858

PIT\_OP30

## 1   
## 64.68319

PIT\_OP31

## 1   
## 5.581064

ARI\_P1

## 1   
## 0.6243667

ARI\_P2

## 1   
## 27.83913

ARI\_P3

## 1   
## 23.46597

ARI\_P4

## 1   
## 23.9195

ARI\_P5

## 1   
## 220.3328

ARI\_P6

## 1   
## 132.9594

ARI\_P7

## 1   
## 1.1566

ARI\_P8

## 1   
## 20.03853

ARI\_P9

## 1   
## 227.0164

ARI\_P10

## 1   
## 110.3445

ARI\_P11

## 1   
## 0.6052

ARI\_P12

## 1   
## 32.0426

ARI\_P13

## 1   
## 1.8883

ARI\_P14

## 1   
## 0.2678

ARI\_P15

## 1   
## 17.23757

ARI\_P16

## 1   
## 0.3440667

ARI\_P17

## 1   
## 34.0143

ARI\_P18

## 1   
## 1.2708

ARI\_P19

## 1   
## 0.3338667

ARI\_P20

## 1   
## 15.97883

ARI\_P21

## 1   
## 0.4578667

ARI\_OP1

## 1   
## 0.6155333

ARI\_OP2

## 1   
## 24.65407

ARI\_OP3

## 1   
## 23.9437

ARI\_OP4

## 1   
## 22.8336

ARI\_OP5

## 1   
## 268.3412

ARI\_OP6

## 1   
## 121.2908

ARI\_OP7

## 1   
## 1.626167

ARI\_OP8

## 1   
## 20.13153

ARI\_OP9

## 1   
## 227.3833

ARI\_OP10

## 1   
## 104.914

ARI\_OP11

## 1   
## 0.8811667

ARI\_OP12

## 1   
## 2.74267

ARI\_OP13

## 1   
## 6.160553

ARI\_OP14

## 1   
## 14.80752

ARI\_OP15

## 1   
## 38.8105

ARI\_OP16

## 1   
## -1.51517

ARI\_OP17

## 1   
## 36.75003

ARI\_OP18

## 1   
## 2.029667

ARI\_OP19

## 1   
## 0.6300333

ARI\_OP20

## 1   
## 67.4305

ARI\_OP21

## 1   
## 16.9752

ARI\_OP22

## 1   
## 0.5429333

ARI\_OP23

## 1   
## 3.69718

ARI\_OP24

## 1   
## 19.52122

ARI\_OP25

## 1   
## 2.754729

ARI\_OP26

## 1   
## 4.555467

ARI\_OP27

## 1   
## 5.820282

ARI\_OP28

## 1   
## 3.010677

ARI\_OP29

## 1   
## 8.395435

ARI\_OP30

## 1   
## 68.27637

ARI\_OP31

## 1   
## 4.766778

ATL\_P1

## 1   
## 0.5463333

ATL\_P2

## 1   
## 25.64013

ATL\_P3

## 1   
## 19.54837

ATL\_P4

## 1   
## 20.91733

ATL\_P5

## 1   
## 220.5613

ATL\_P6

## 1   
## 104.3106

ATL\_P7

## 1   
## 1.062067

ATL\_P8

## 1   
## 21.1854

ATL\_P9

## 1   
## 235.4853

ATL\_P10

## 1   
## 105.085

ATL\_P11

## 1   
## 0.6533

ATL\_P12

## 1   
## 32.97063

ATL\_P13

## 1   
## 1.980067

ATL\_P14

## 1   
## 0.2734667

ATL\_P15

## 1   
## 17.1184

ATL\_P16

## 1   
## 0.2852

ATL\_P17

## 1   
## 33.3763

ATL\_P18

## 1   
## 1.486133

ATL\_P19

## 1   
## 0.192

ATL\_P20

## 1   
## 16.37967

ATL\_P21

## 1   
## 0.3659333

ATL\_OP1

## 1   
## 0.6187

ATL\_OP2

## 1   
## 25.78103

ATL\_OP3

## 1   
## 24.72897

ATL\_OP4

## 1   
## 23.12843

ATL\_OP5

## 1   
## 278.4111

ATL\_OP6

## 1   
## 112.0411

ATL\_OP7

## 1   
## 1.4594

ATL\_OP8

## 1   
## 19.7149

ATL\_OP9

## 1   
## 250.8926

ATL\_OP10

## 1   
## 106.338

ATL\_OP11

## 1   
## 0.9792667

ATL\_OP12

## 1   
## 2.725204

ATL\_OP13

## 1   
## 6.574673

ATL\_OP14

## 1   
## 14.50891

ATL\_OP15

## 1   
## 41.31801

ATL\_OP16

## 1   
## 0.1295467

ATL\_OP17

## 1   
## 36.3207

ATL\_OP18

## 1   
## 2.386367

ATL\_OP19

## 1   
## 0.4159

ATL\_OP20

## 1   
## 65.44006

ATL\_OP21

## 1   
## 18.58397

ATL\_OP22

## 1   
## 0.4558333

ATL\_OP23

## 1   
## 4.150274

ATL\_OP24

## 1   
## 22.95361

ATL\_OP25

## 1   
## 2.848813

ATL\_OP26

## 1   
## 3.546307

ATL\_OP27

## 1   
## 5.624881

ATL\_OP28

## 1   
## 2.972718

ATL\_OP29

## 1   
## 11.14094

ATL\_OP30

## 1   
## 65.71272

ATL\_OP31

## 1   
## 4.506451

CAR\_P1

## 1   
## 0.7040333

CAR\_P2

## 1   
## 27.49797

CAR\_P3

## 1   
## 27.8524

CAR\_P4

## 1   
## 22.3616

CAR\_P5

## 1   
## 232.0334

CAR\_P6

## 1   
## 112.0448

CAR\_P7

## 1   
## 0.7638

CAR\_P8

## 1   
## 20.08467

CAR\_P9

## 1   
## 245.5818

CAR\_P10

## 1   
## 104.4813

CAR\_P11

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CAR\_P12

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CAR\_P13

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CAR\_P14

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CAR\_P15

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CAR\_P16

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CAR\_P17

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CAR\_P18

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CAR\_P19

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CAR\_P21

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CAR\_OP3

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CAR\_OP4

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CAR\_OP5

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## 254.9467

CAR\_OP6

## 1   
## 107.4138

CAR\_OP7

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## 1.028433

CAR\_OP8

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CAR\_OP9

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CAR\_OP10

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CAR\_OP11

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CAR\_OP14

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## 13.28793

CAR\_OP15

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CAR\_OP16

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CAR\_OP18

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CAR\_OP19

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CAR\_OP20

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CAR\_OP22

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CAR\_OP23

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CAR\_OP28

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CAR\_OP29

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## 8.028367

CAR\_OP30

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CAR\_OP31

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BUF\_P2

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BUF\_P3

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## 18.0801

BUF\_P4

## 1   
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BUF\_P5

## 1   
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BUF\_P6

## 1   
## 114.1735

BUF\_P7

## 1   
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BUF\_P8

## 1   
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BUF\_P9

## 1   
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BUF\_P10

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BUF\_P11

## 1   
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BUF\_P12

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## 31.0731

BUF\_P13

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## 1.8624

BUF\_P14

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BUF\_P15

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BUF\_P16

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BUF\_P17

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BUF\_P19

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BUF\_P21

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BUF\_OP4

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BUF\_OP5

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BUF\_OP6

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BUF\_OP7

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BUF\_OP8

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BUF\_OP9

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BUF\_OP10

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BUF\_OP11

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BUF\_OP12

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BUF\_OP14

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BUF\_OP15

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BUF\_OP16

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BUF\_OP19

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BUF\_OP20

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BUF\_OP21

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BUF\_OP22

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BUF\_OP23

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BUF\_OP24

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BUF\_OP25

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BUF\_OP26

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BUF\_OP31

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NYJ\_P2

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NYJ\_P3

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NYJ\_P4

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NYJ\_P5

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NYJ\_P7

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NYJ\_P8

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NYJ\_P9

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## 230.6508

NYJ\_P10

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NYJ\_P11

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NYJ\_P12

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NYJ\_OP4

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NYJ\_OP6

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NYJ\_OP8

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NYJ\_OP9

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NYJ\_OP10

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NYJ\_OP16

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NYJ\_OP19

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NYJ\_OP20

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NYJ\_OP21

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NYJ\_OP22

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NYJ\_OP26

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NYJ\_OP27

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NYJ\_OP29

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NYJ\_OP30

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NYJ\_OP31

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CHI\_P6

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CHI\_OP5

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CHI\_OP6

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CHI\_OP7

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CHI\_OP8

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CHI\_OP9

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CHI\_OP19

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CHI\_OP22

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CHI\_OP31

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GB\_P9

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GB\_OP6

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GB\_OP7

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GB\_OP8

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GB\_OP12

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GB\_OP15

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KC\_P4

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KC\_P6

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KC\_P9

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KC\_OP14

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KC\_OP31

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DET\_P2

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DET\_P3

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DET\_P4

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DET\_P5

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DET\_P6

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DET\_P7

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DET\_P8

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DET\_P11

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DET\_P13

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DET\_P16

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DET\_P18

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DET\_P20

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DET\_P21

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DET\_OP3

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DET\_OP4

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DET\_OP5

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DET\_OP6

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DET\_OP7

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DET\_OP9

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DET\_OP10

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IND\_P7

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IND\_P10

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IND\_OP16

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IND\_OP31

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TEN\_P1

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TEN\_P4

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TEN\_P5

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TEN\_P6

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## 129.2063

TEN\_P7

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## 0.9073

TEN\_P8

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## 21.1791

TEN\_P9

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TEN\_P10

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TEN\_P11

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TEN\_P14

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TEN\_P17

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TEN\_P19

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TEN\_P20

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TEN\_P21

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TEN\_OP2

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TEN\_OP3

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TEN\_OP4

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TEN\_OP5

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TEN\_OP6

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TEN\_OP9

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TEN\_OP13

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TEN\_OP14

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TEN\_OP18

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TEN\_OP19

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TEN\_OP21

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TEN\_OP22

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TEN\_OP24

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TEN\_OP25

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TEN\_OP26

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TEN\_OP31

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JAX\_P2

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JAX\_P3

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JAX\_P4

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JAX\_P7

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JAX\_P8

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JAX\_P9

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JAX\_OP3

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JAX\_OP4

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JAX\_OP5

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JAX\_OP6

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JAX\_OP9

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JAX\_OP22

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JAX\_OP31

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