LAB4\_4

setwd(".")  
library(knitr)  
library(ggplot2)  
library(mgcv)

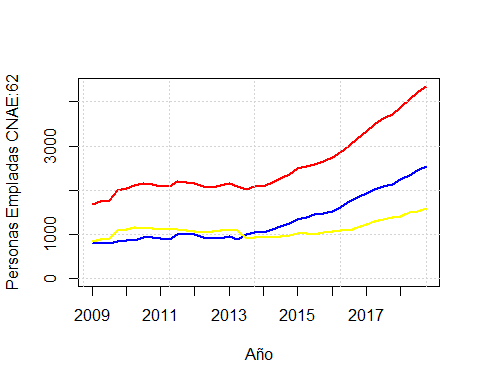
## Loading required package: nlme

## This is mgcv 1.8-28. For overview type 'help("mgcv-package")'.

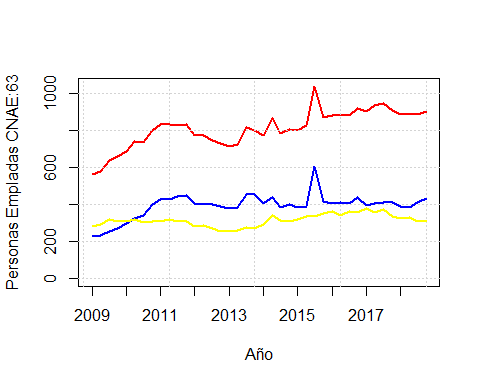
empleo<-read.csv("Archivos/Empleos\_Informatica\_Canarias\_2009-18.csv", sep=";")  
attach(empleo)

#APARTADO A

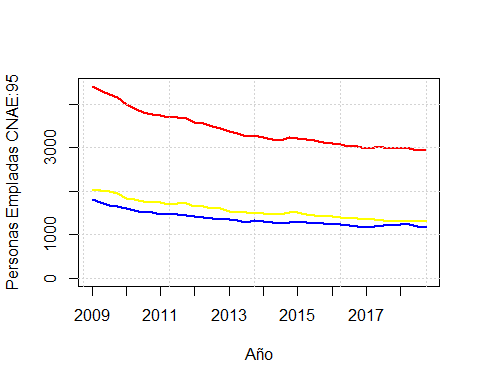
#------------CAN 62------------#  
CAN\_62<-empleo[TRIMESTRES=="CNAE\_62",2]  
index<-seq(length(CAN\_62),1,-1)  
CAN\_62\_t<-CAN\_62[index]  
  
plot(1:length(CAN\_62\_t), CAN\_62\_t, xaxt="n", type="l",  
 xlab="Año", ylab="Personas Empladas CNAE:62",  
 ylim = c(0,max(CAN\_62\_t)),col="red", lwd=2)  
years<-c("2009","2010","2011","2012","2013","2014","2015",  
 "2016","2017","2018")  
axis(side=1, at = seq(1,length(CAN\_62),4),   
 labels = years)  
grid()  
  
#GRAFICAS DE EMPLEO PARA GC Y TF  
TFE\_62<-TENERIFE[TRIMESTRES=="CNAE\_62"]  
GCA\_62<-GRAN.CANARIA[TRIMESTRES=="CNAE\_62"]  
  
#PUNTOS PARA CADA UNA DE LAS ANTERIORES  
points(1:length(CAN\_62),TFE\_62[index], type="l", col="blue",lwd=2)  
points(1:length(CAN\_62),GCA\_62[index], type="l", col="yellow",lwd=2)



#------------CAN 63------------#  
CAN\_63<-empleo[TRIMESTRES=="CNAE\_63",2]  
index<-seq(length(CAN\_63),1,-1)  
CAN\_63\_t<-CAN\_63[index]  
  
plot(1:length(CAN\_63\_t), CAN\_63\_t, xaxt="n", type="l",  
 xlab="Año", ylab="Personas Empladas CNAE:63",  
 ylim = c(0,max(CAN\_63\_t)),col="red", lwd=2)  
years<-c("2009","2010","2011","2012","2013","2014","2015",  
 "2016","2017","2018")  
axis(side=1, at = seq(1,length(CAN\_63),4),   
 labels = years)  
grid()  
  
#GRAFICAS DE EMPLEO PARA GC Y TF  
TFE\_63<-TENERIFE[TRIMESTRES=="CNAE\_63"]  
GCA\_63<-GRAN.CANARIA[TRIMESTRES=="CNAE\_63"]  
  
#PUNTOS PARA CADA UNA DE LAS ANTERIORES  
points(1:length(CAN\_63),TFE\_63[index], type="l", col="blue",lwd=2)  
points(1:length(CAN\_63),GCA\_63[index], type="l", col="yellow",lwd=2)



#------------CAN 95------------#  
CAN\_95<-empleo[TRIMESTRES=="CNAE\_95",2]  
index<-seq(length(CAN\_95),1,-1)  
CAN\_95\_t<-CAN\_95[index]  
  
plot(1:length(CAN\_95\_t), CAN\_95\_t, xaxt="n", type="l",  
 xlab="Año", ylab="Personas Empladas CNAE:95",  
 ylim = c(0,max(CAN\_95\_t)),col="red", lwd=2)  
years<-c("2009","2010","2011","2012","2013","2014","2015",  
 "2016","2017","2018")  
axis(side=1, at = seq(1,length(CAN\_95),4),   
 labels = years)  
grid()  
  
#GRAFICAS DE EMPLEO PARA GC Y TF  
TFE\_95<-TENERIFE[TRIMESTRES=="CNAE\_95"]  
GCA\_95<-GRAN.CANARIA[TRIMESTRES=="CNAE\_95"]  
  
#PUNTOS PARA CADA UNA DE LAS ANTERIORES  
points(1:length(CAN\_95),TFE\_95[index], type="l", col="blue",lwd=2)  
points(1:length(CAN\_95),GCA\_95[index], type="l", col="yellow",lwd=2)



#APARTADO B

#Hecho para el CAN62.  
  
#----------------- Grafica inicial -----------------#  
y63<-CAN\_63\_t  
x63<-seq(1,40)  
y62<-CAN\_62\_t  
x62<-seq(1,40)  
y95<-CAN\_95\_t  
x95<-seq(1,40)  
  
plot(x63,y63, xlim=c(1,52), ylim=c(min(y63),2.5\*max(y62)),  
 xlab="Predicción Empleo", ylab ="Numero de puestos", col="red", type="l", lwd=2)  
points(x62,y62, type="l", col="orange", lwd=2)  
points(x95,y95, type="l", col="blue", lwd=2)  
  
  
#-----------------CAN 62-----------------#  
x<-x62  
y<-y62  
modelogam62<-gam(y~s(x))  
xv62<-(40:52)  
yv62<-predict(modelogam62, list(x=xv62))  
points(xv62,yv62, type="l", col="brown", lwd=2)  
  
  
#-----------------CAN 63-----------------#  
x<-x63  
y<-y63  
modelogam63<-gam(y~s(x))  
xv63<-(40:52)  
yv63<-predict(modelogam63,list(x=xv63))  
points(xv63,yv63, type="l", col="pink", lwd=2)  
  
  
#-----------------CAN 95-----------------#  
x<-x95  
y<-y95  
modelogam95<-gam(y~s(x))  
xv95<-(40:52)  
yv95<-predict(modelogam95,list(x=xv95))  
points(xv95,yv95, type="l", col="lightblue", lwd=2)  
  
#-----------------FINAL -----------------#  
  
abline(v=40, col="black", lwd=2, lty=2)  
grid()

