Calculating RMSE

#Calculating RMSE  
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library(tidyr)  
library(dplyr)

library(ggplot2)  
library(readr)  
library(gridExtra)

library(ggpubr)

library(colourpicker)  
library(forecast)

setwd("/home/thomasz/Desktop/toolik\_timeseries/toolik\_timeseries")  
  
#Reading in .csv's  
#Hourly  
observed <- read.csv('observed\_hourly.csv', header = TRUE, skip = 0, sep = ",")  
modeldefault <- read.csv('default\_hourly.csv', header = TRUE, skip = 0, sep = ",")  
green <- read.csv('green\_hourly.csv', header = TRUE, skip = 0, sep = ",")  
real <- read.csv('realistic\_hourly.csv', header = TRUE, skip = 0, sep = ",")  
  
#Daily  
observed\_daily <- read.csv('observed\_daily.csv', header = TRUE, skip = 0, sep = ",")  
modeldefault\_daily <- read.csv('default\_daily.csv', header = TRUE, skip = 0, sep = ",")  
green\_daily <- read.csv('green\_daily.csv', header = TRUE, skip = 0, sep = ",")  
real\_daily <- read.csv('realistic\_daily.csv', header = TRUE, skip = 0, sep = ",")  
  
#Changing factor to date class----  
observed$date\_time <- as.POSIXct(observed$date\_time, format = "%Y-%m-%d %H:%M:%S")  
modeldefault$ts\_hour <- as.POSIXct(modeldefault$ts\_hour, format = "%Y-%m-%d %H:%M:%S")  
green$ts\_hour <- as.POSIXct(green$ts\_hour, format = "%Y-%m-%d %H:%M:%S")  
real$ts\_hour <- as.POSIXct(real$ts\_hour, format = "%Y-%m-%d %H:%M:%S")  
  
#Calculating RMSE----  
# Function that returns Root Mean Squared Error----  
rmse <- function(error)  
{  
 sqrt(mean(error^2))  
}  
  
# Calculating error----  
#Daily  
error\_daily <- observed\_daily$air\_temp\_3m - modeldefault\_daily$t  
errorgreen\_daily <- observed\_daily$air\_temp\_3m - green\_daily$t  
errorreal\_daily <- observed\_daily$air\_temp\_3m - real\_daily$t  
  
#Hourly  
error <- observed$air\_temp\_3m - modeldefault$t  
errorgreen <- observed$air\_temp\_3m - green$t  
errorreal <- observed$air\_temp\_3m - real$t  
  
#Printing results----  
#Daily  
rmse(error\_daily)

## [1] 2.841887

rmse(errorgreen\_daily)

## [1] 2.831367

rmse(errorreal\_daily)

## [1] 2.655102

#Hourly  
rmse(error)

## [1] 5.192558

rmse(errorgreen)

## [1] 5.153107

rmse(errorreal)

## [1] 5.16833