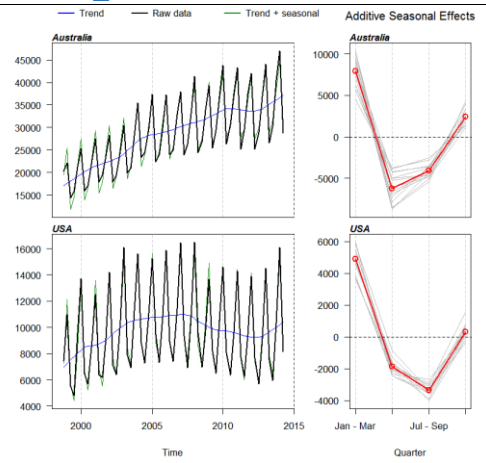
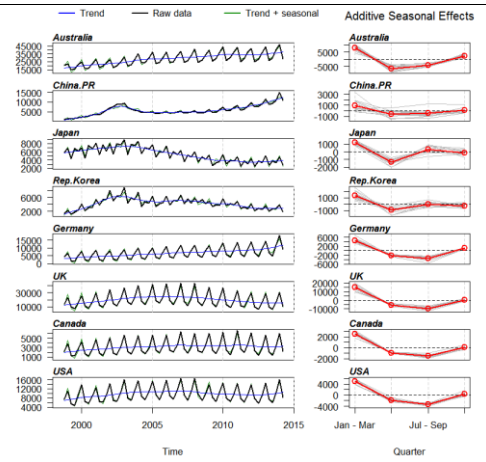
8.10 Exercise: Time Series analysis for more than one series – *R version*

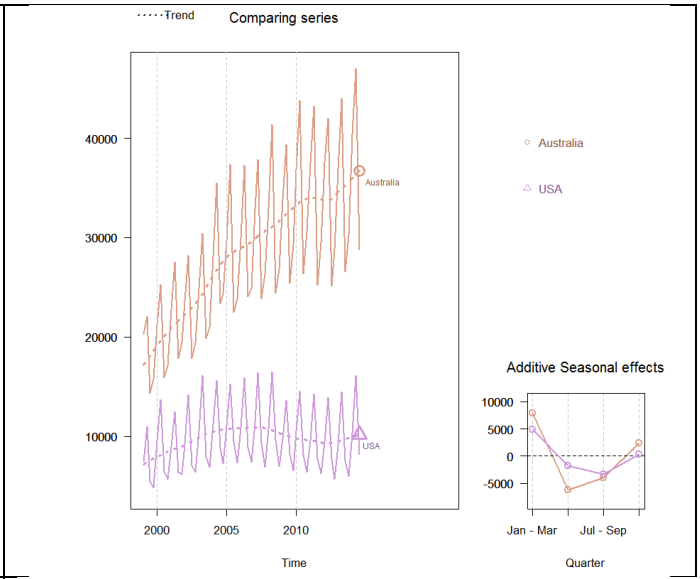
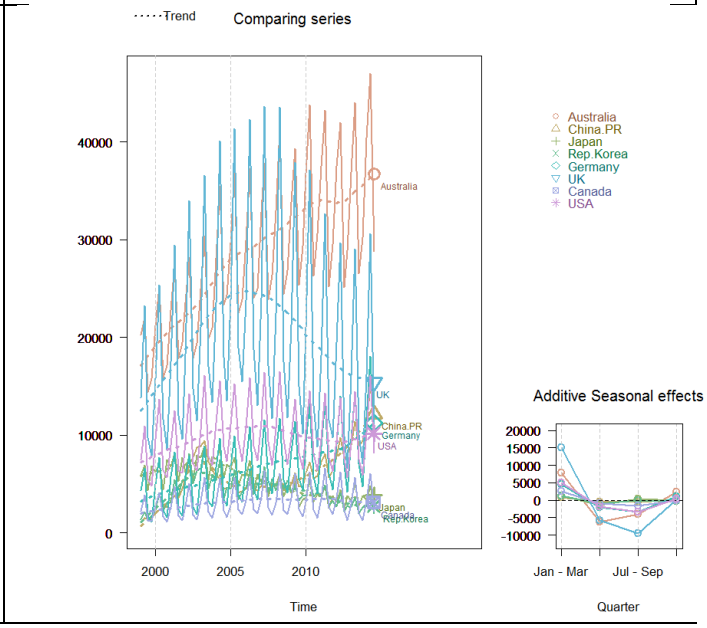
In the previous exercise we only looked at the visitors from one country alone. Now we want to see the graphs for more than one, to be able to compare their visitor numbers.

This exercise will enable you to use iNZight to compare several time series by viewing them simultaneously in two different ways.

We will again use the **Week8_AverageVisitorsQuarterly** dataset from the **FutureLearnData** package.

# R Code	Output and/or Commentary
# Set up library(iNZightTS) library(FutureLearnData) data(week8_AverageVisitorsQuarterly)	
# See the variables in this dataset head(week8_AverageVisitorsQuarterly) ***# See how these work …*** c(2,5,9) c(2,4:6, 8)	 `> head(week8_AverageVisitorsQuarterly)` `  Time Australia China.PR Japan Rep.Korea Germany UK Canada USA` `1 1998Q4 20288 1089 5938 1357 4376 13831 2196 7465` `2 1999Q1 22047 1492 6925 2189 6591 23271 3846 10969` `3 1999Q2 14362 1450 4353 1287 1787 9756 1285 5498` `4 1999Q3 15775 1551 6855 1767 1169 7899 1210 4811` `5 1999Q4 21209 2020 6216 2339 4998 15778 2748 9568` `6 2000Q1 25261 2364 7061 4075 7740 25362 4147 13700` `>` ***We are going to use this idea*** *to specify the* ***column numbers*** *corresponding to the countries we want to look at*

Aus_USA = **iNZightTS(**week8_AverageVisitorsQuarterly**,** **var=c(2,9))**	***Create Time Series object for the set of countries we want to look at*** ***selecting columns 2 and 9*** *(which correspond to Australia and USA).* ***Let's call it Aus_USA***
# Separate plots for Aus_USA **multiseries(Aus_USA**, t=20**)**	
ALL = iNZightTS(week8_AverageVisitorsQuarterly, **var=c(2:9))**	***Create Time Series object for the whole set of countries we want to look at*** • ***selecting all columns from 2 to 9.*** • ***Let's call it ALL***
# Separate plots for ALL multiseries(**ALL**, t=20)	

***# Separate plots for* Aus_USA** **compareplot(*Aus_USA*, t=30)**	
***# Separate plots for* ALL** compareplot**(ALL**, t=30**)**	

- **Repeat what we have done above for any other *combinations of countries* that interest you and try to interpret the patterns you see as has been done in the video**
    - Skim-read the **iNZight version** for the **commentary that is missing here.** (This document just concentrates on how the code works)
        - and for **exploration questions**