

Time Series Practice

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Time Series Practice Session :

Let's learn time series forecasting in R.

First Time Series :

```
## 2012 2013 2014 2015 2016
##   43   54   87   21   42
```

```
## 2013 2014 2015 2016 2017 2018
##   79   22   37   96   82   69
```

Airline Data

```
## [1] "First.Class"      "Business.Class" "Economy.Class"
```

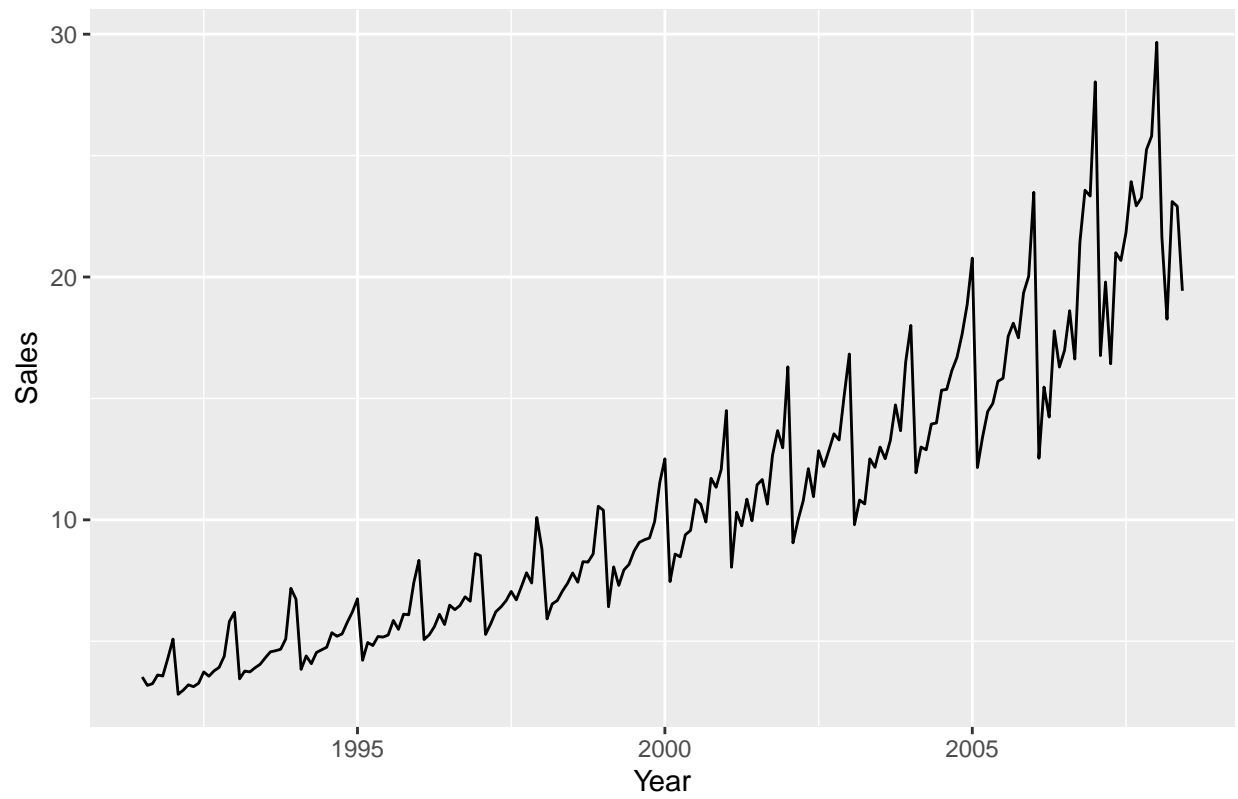
Melbourne–Sydney Economy Air Passengers



Antibody Sales Data

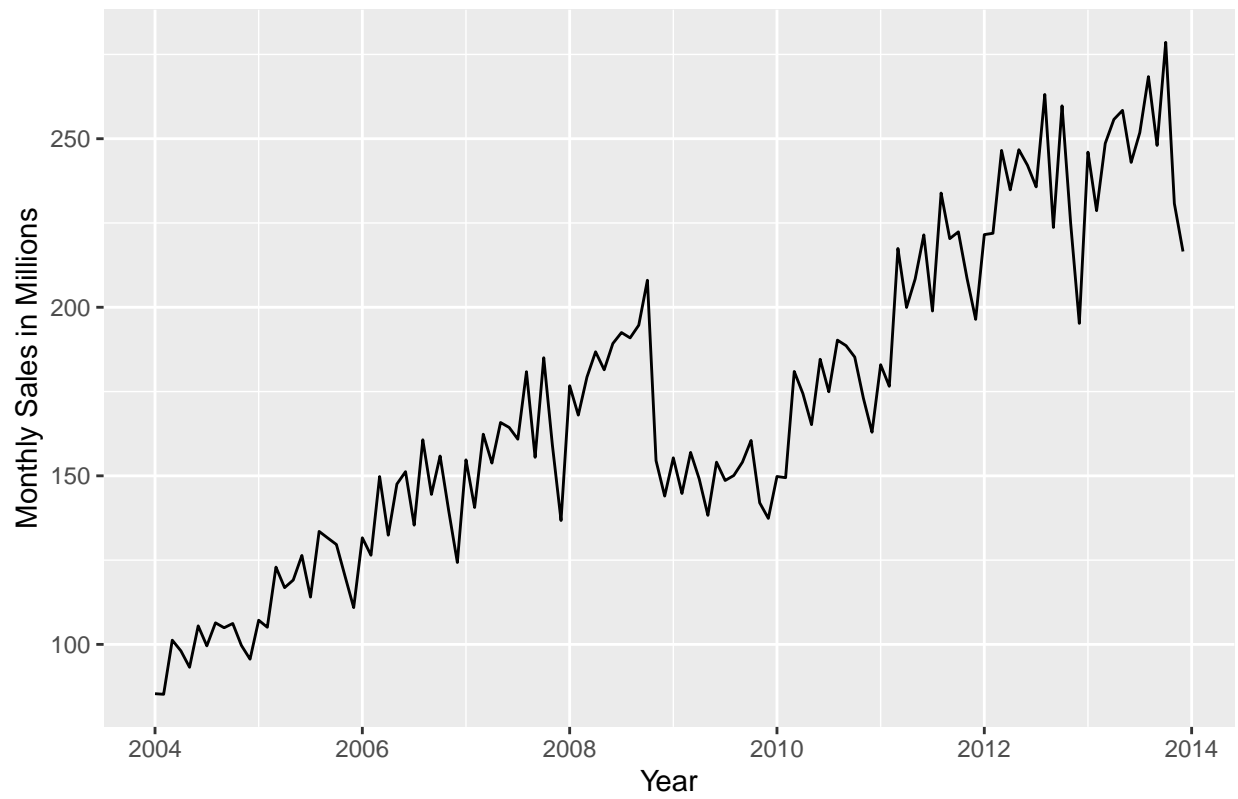
```
## [1] "Date" "Time" "Month" "Year" "Sales"
```

Antibiotics sales each month



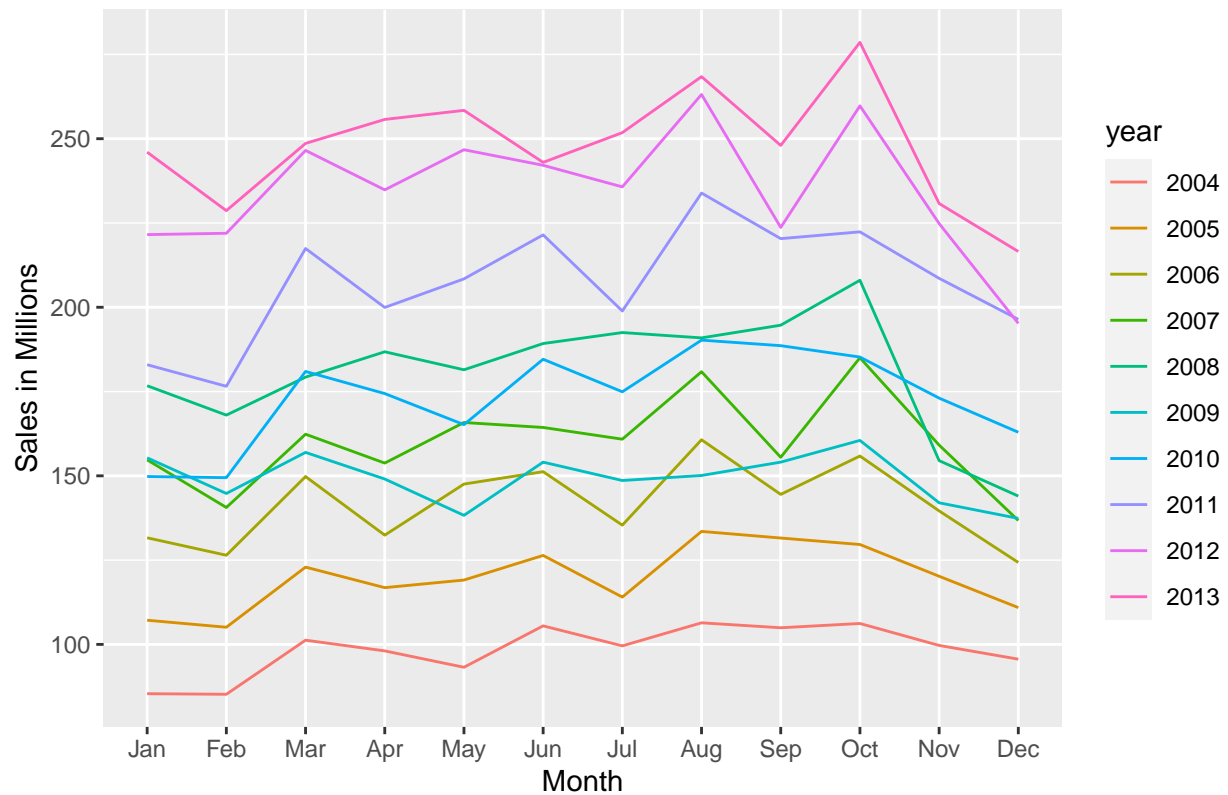
```
## [1] "Time"           "Month"           "Month.Num"       "Year"
## [5] "NumBDays"       "AvSalesPD"       "Total.Sales"     "Total.Fastner"
## [9] "Total.Nonfastner"
```

Total Monthly Sales (2004–2013)



Trends, Seasonality and Cyclicity

Seasonal plot: TotSales



Switching to the 3rd Edition

```
## # A tsibble: 5 x 2 [1Y]
##   Year Observation
##   <int>         <dbl>
## 1  2015          123
## 2  2016           39
## 3  2017           78
## 4  2018           52
## 5  2019          110
```

```
## # A tsibble: 5 x 2 [1M]
##   YearMonth Observation
##   <mth>         <dbl>
## 1  2015 May          123
## 2  2015 Jun           39
## 3  2015 Jul           78
## 4  2015 Aug           52
## 5  2015 Sep          110
```