Leading indicators of market growth

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Background

Here we analyze a time series of data provided by Marcus Cunha for Thoughtful Insights. The objective is to illustrate a use case for statistical leading indicators based on the theory of critical slowing down.

Data

First we read in the data.

```r
data <- read.csv('kpi-data.csv')
```
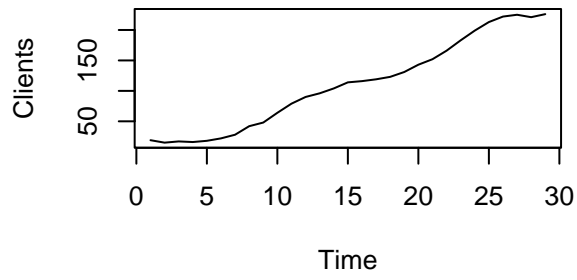
Calculate total revenue as $REVENUE = MRR + NMRR + Expansion$.

```r
data$revenue <- data$MRR + data$NMRR + data$Expansion
```
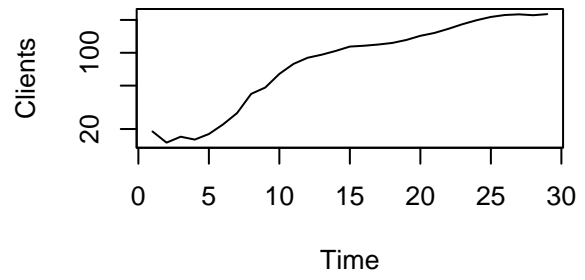
Plot two variables (`revenue` and `Clients`) on ordinary and logarthmic scales.

```r
par(mfrow=c(2,2))
plot(data$Clients, type='l', xlab='Time', ylab='Clients', main='Ordinary scale')
plot(data$Clients, type='l', log='y', xlab='Time', ylab='Clients', main='Logarithmic scale')
plot(data$revenue, type='l', xlab='Time', ylab='Revenue', main='Ordinary scale')
plot(data$revenue, type='l', log='y', xlab='Time', ylab='Revenue', main='Logarithmic scale')
```
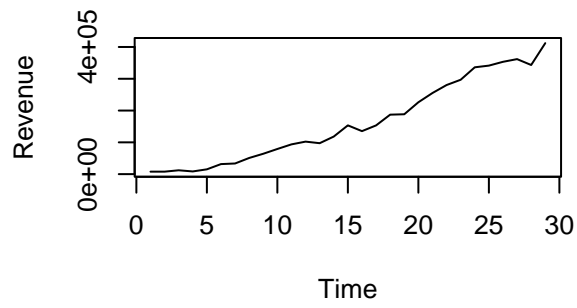
Ordinary scale

Clients

50 150

0   5   10   15   20   25   30

Time

Logarithmic scale

Clients

20   100

0   5   10   15   20   25   30

Time

Ordinary scale

Revenue

4e+05

0e+00

0   5   10   15   20   25   30

Time

Logarithmic scale

Revenue

2e+05

1e+04

0   5   10   15   20   25   30

Time