Time Series Analysis

Homework of week 5

Hanbin Liu 11912410

5.7

(c)

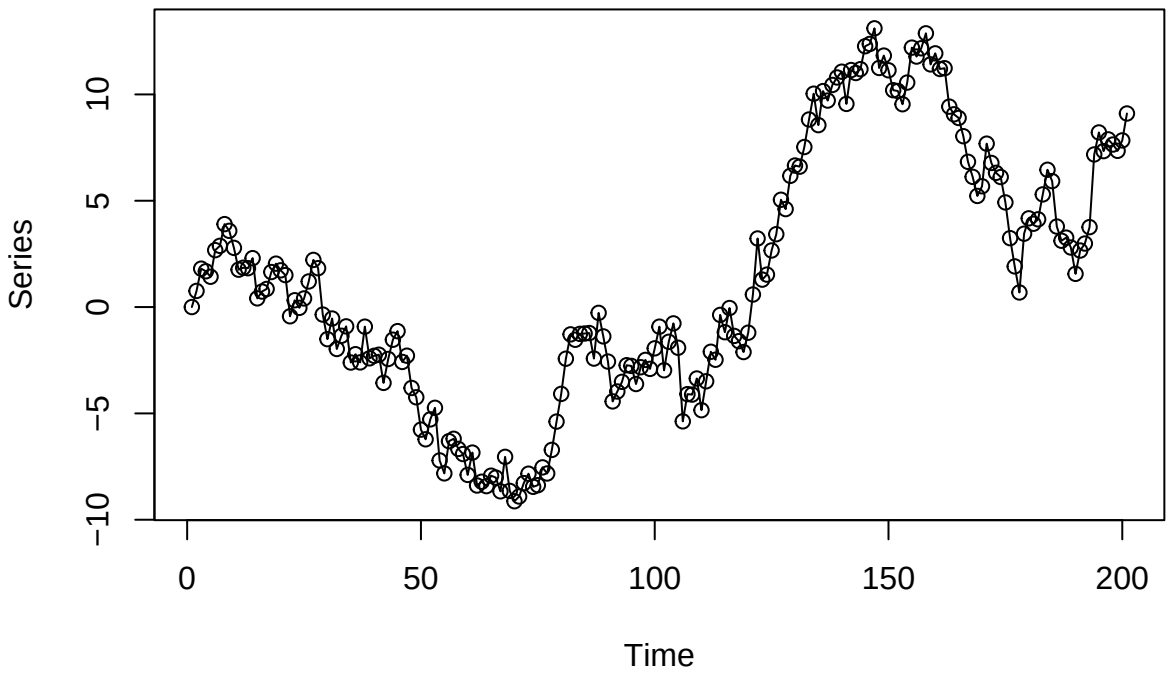
```
ARMAtoMA(ar = c(0.9, 0.09), lag.max = 20)
```

```
##  [1] 0.9000000 0.9000000 0.8910000 0.8829000 0.8748000 0.8667810 0.8588349
##  [8] 0.8509617 0.8431607 0.8354312 0.8277725 0.8201841 0.8126652 0.8052152
## [15] 0.7978336 0.7905196 0.7832726 0.7760921 0.7689775 0.7619280
```

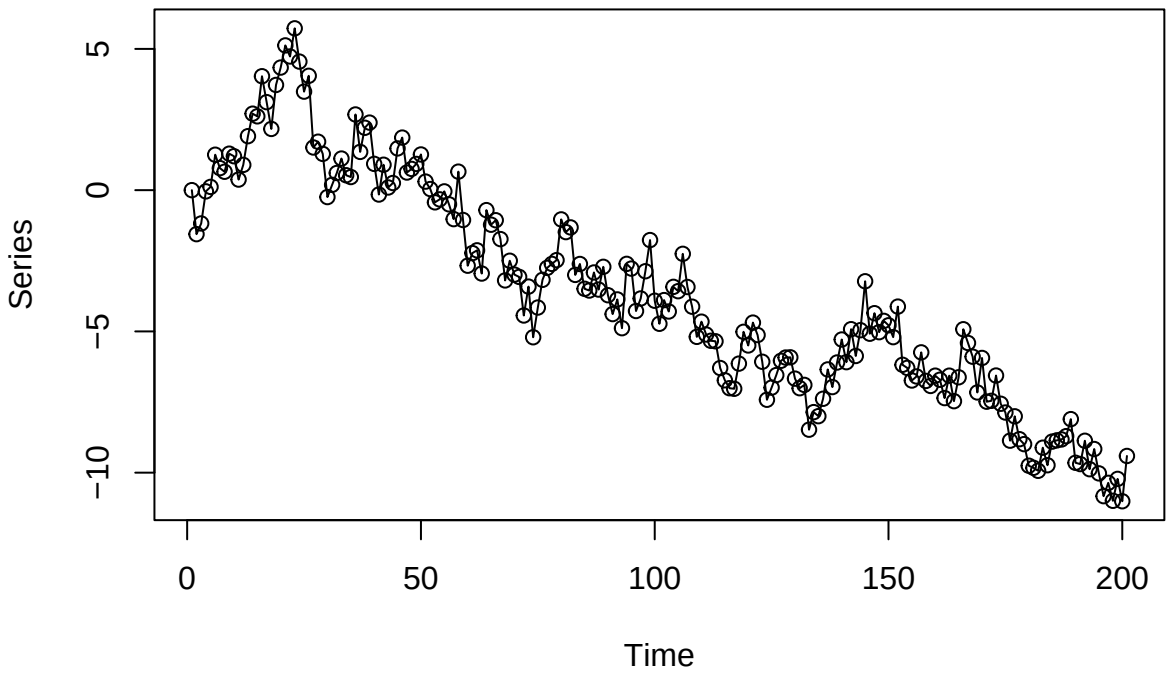
5.10

IMA(1,1)

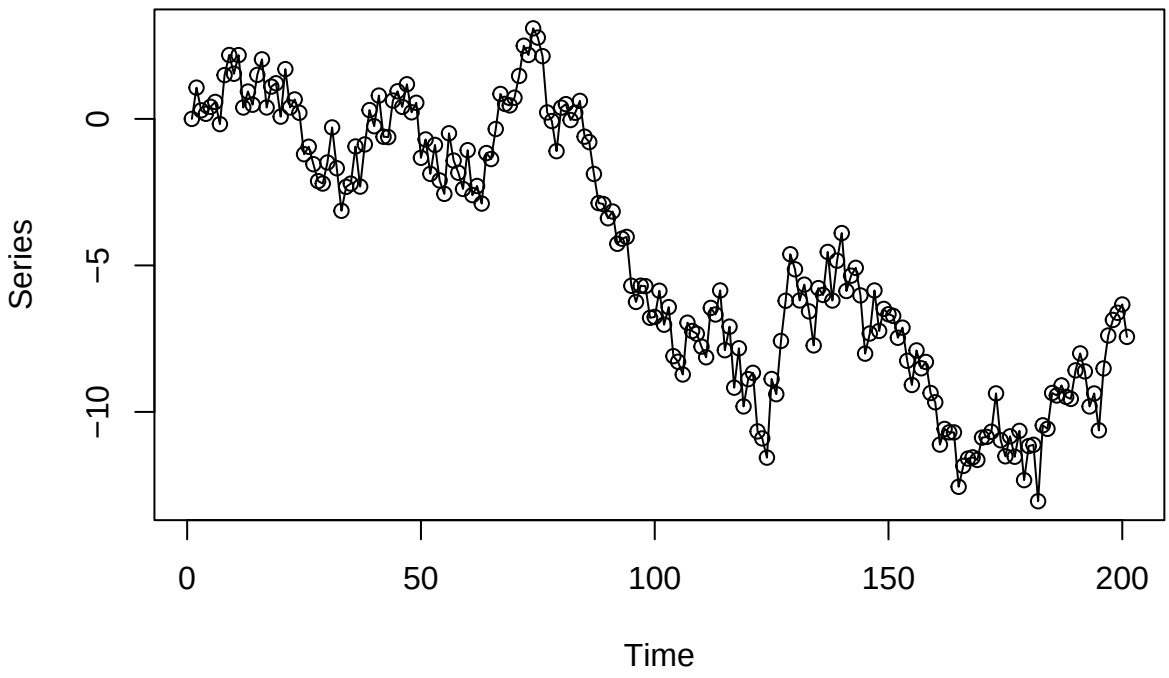
```
plot(arima.sim(model = list(order = c(0, 1, 1),ma = -0.1), n = 200), type = 'o', ylab = 'Series')
```



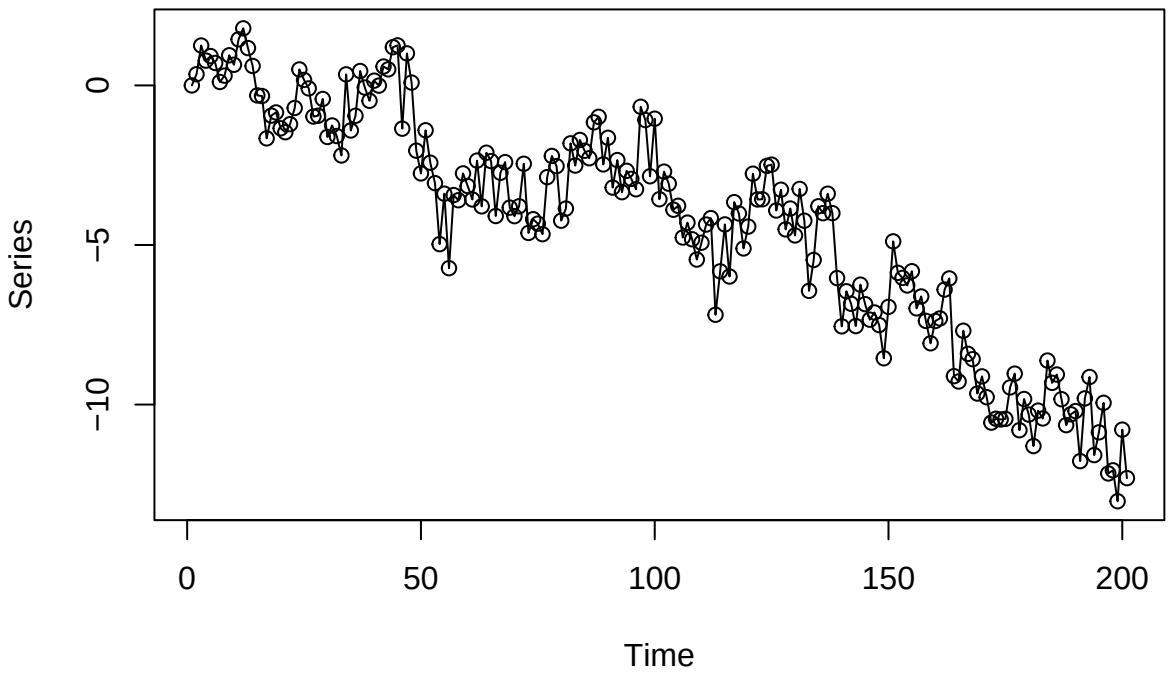

```
plot(arima.sim(model = list(order = c(0, 1, 1),ma = -0.2), n = 200), type = 'o', ylab = 'Series')
```



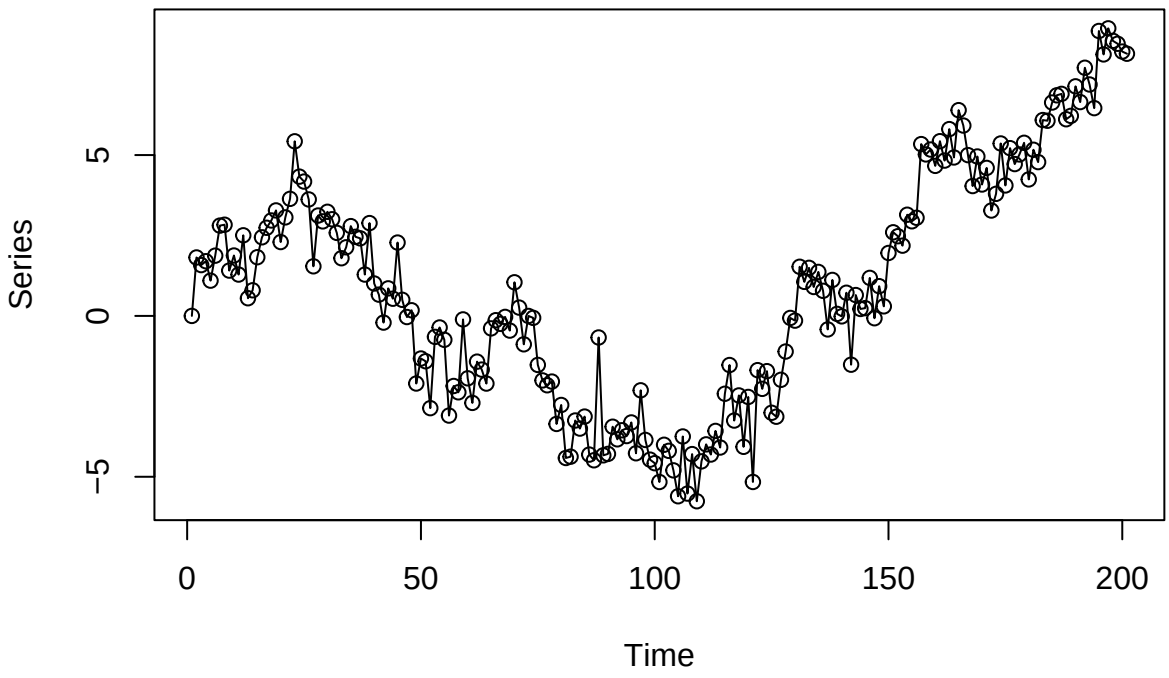

```
plot(arima.sim(model = list(order = c(0, 1, 1),ma = -0.3), n = 200), type = 'o', ylab = 'Series')
```



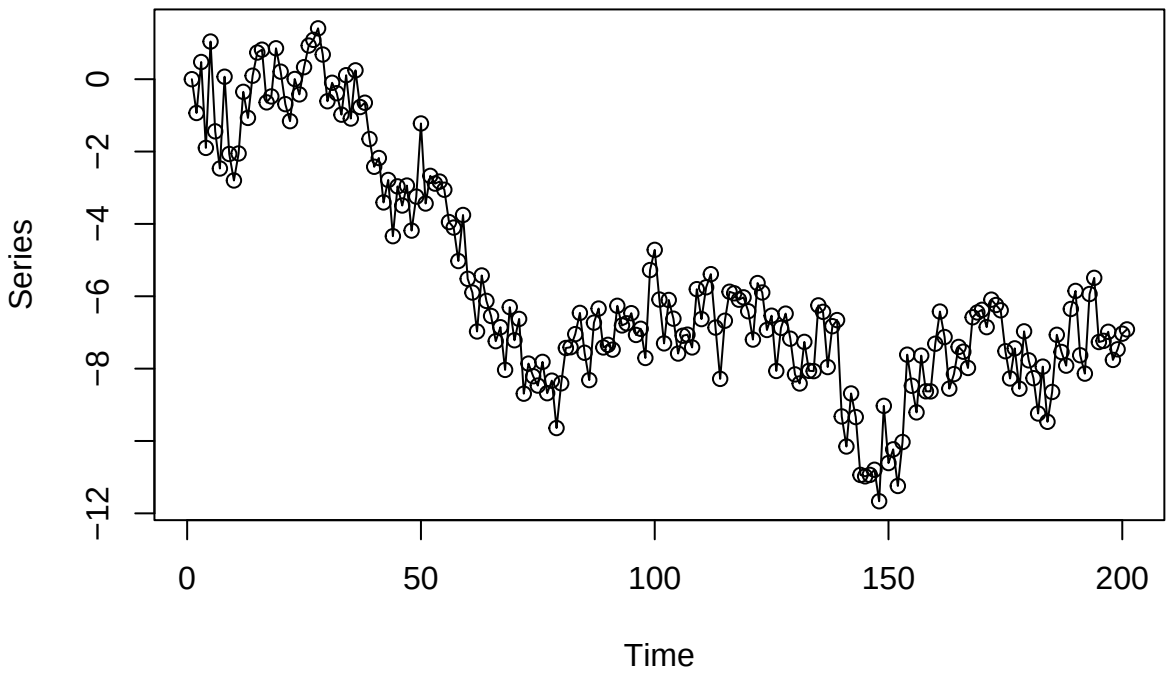

```
###
plot(arima.sim(model = list(order = c(0, 1, 1),ma = -0.5), n = 200), type = 'o', ylab = 'Series')
```




```
plot(arima.sim(model = list(order = c(0, 1, 1),ma = -0.5), n = 200), type = 'o', ylab = 'Series')
```

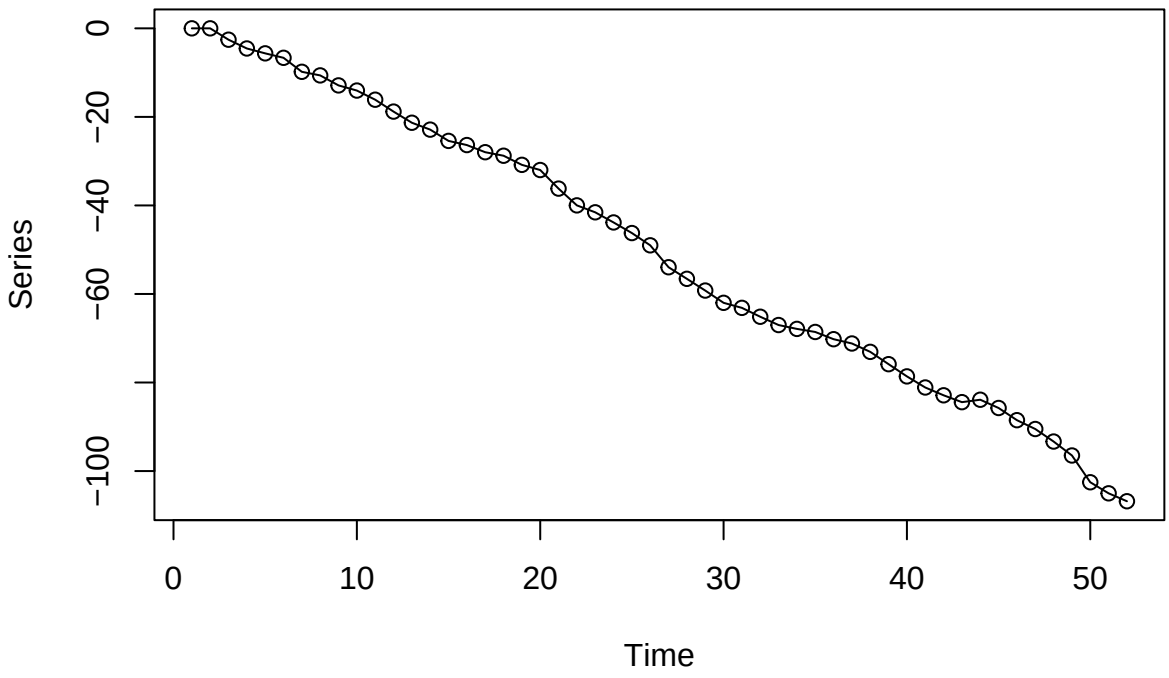



```
plot(arima.sim(model = list(order = c(0, 1, 1),ma = -0.5), n = 200), type = 'o', ylab = 'Series')
```

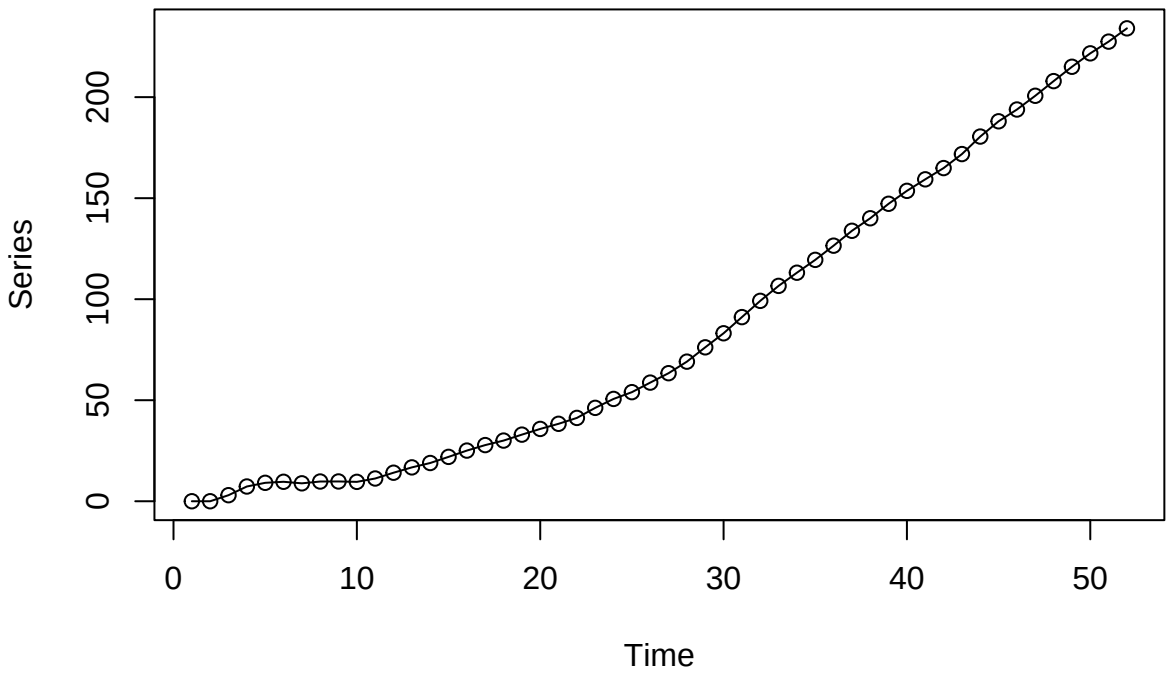


IMA(2,2)

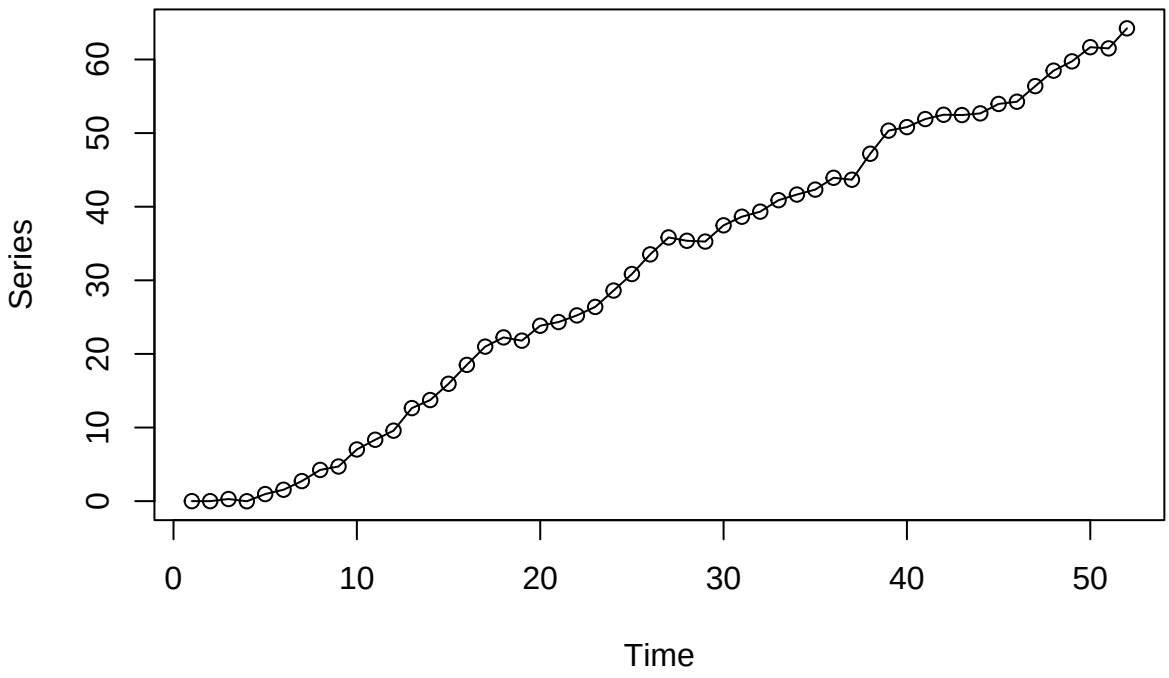
```
plot(arima.sim(model = list(order = c(0, 2, 2), ma = c(-0.9, -0.4)), n = 50), type = 'o', ylab = 'Series
```



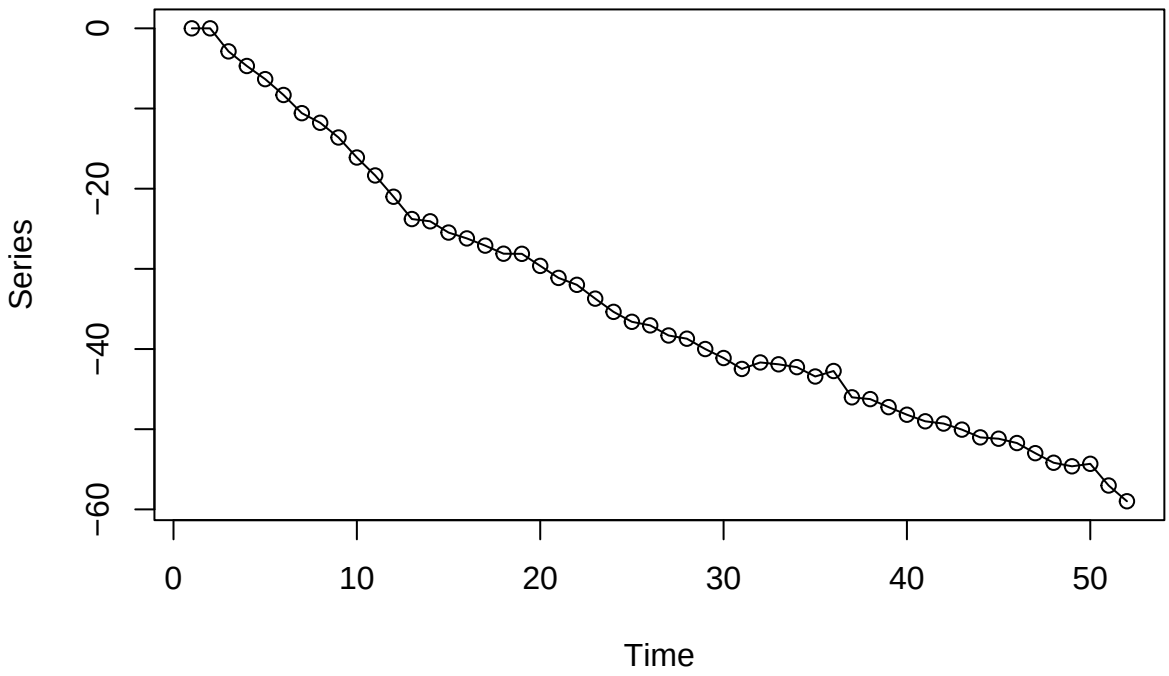

```
plot(arima.sim(model = list(order = c(0, 2, 2), ma = c(-0.9, -0.5)), n = 50), type = 'o', ylab = 'Series
```




```
##
plot(arima.sim(model = list(order = c(0, 2, 2), ma = c(-0.6, -0.1)), n = 50), type = 'o', ylab = 'Series
```




```
plot(arima.sim(model = list(order = c(0, 2, 2), ma = c(-0.6, -0.1)), n = 50), type = 'o', ylab = 'Series
```


Series
0
−20
−40
−60
0
10
20
30
40
50
Time