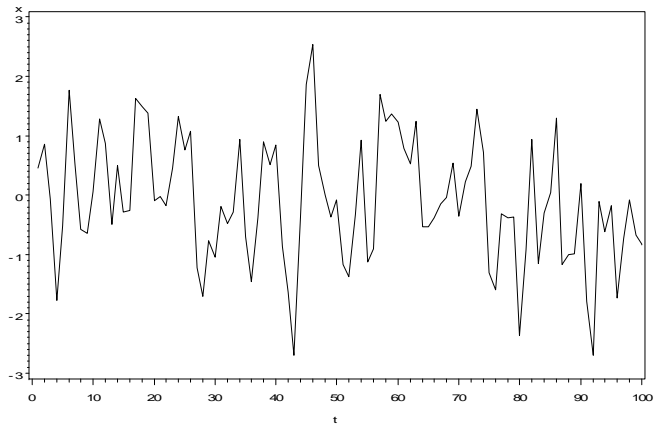


4.(a)

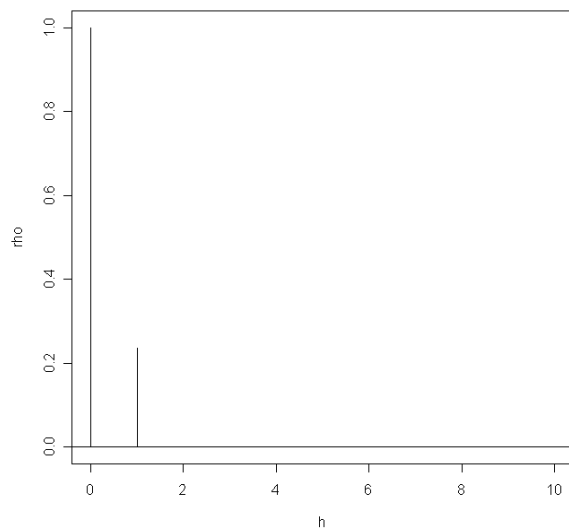


Rho=

[1] 1.000000 0.2352941 0.0000000 0.0000000 0.0000000 0.0000000 0.0000000
[8] 0.0000000 0.0000000 0.0000000 0.0000000

Sample correlations:

LAG	CORR
0	1.00000
1	0.39996
2	-0.05808
3	-0.10039
4	0.06549
5	0.07953
6	-0.02107
7	0.03480
8	0.14307
9	0.02214
10	-0.15194



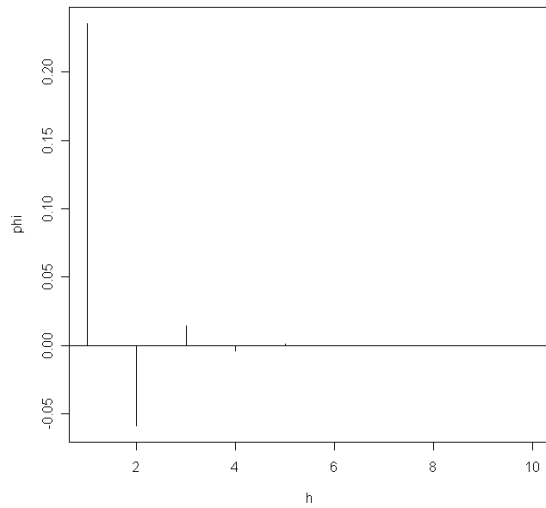
Phi=

[1] 2.352941e-01 -5.860806e-02 1.464866e-02 -3.662113e-03 9.155274e-04

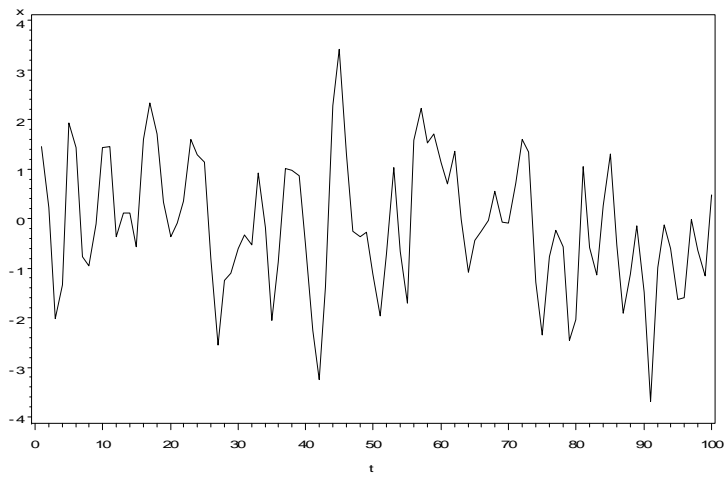
[6] -2.288818e-04 5.722046e-05 -1.430511e-05 3.576279e-06 -8.940697e-07

Sample partial correlation:

LAG	PARTCORR
1	0.39996
2	-0.25957
3	0.04172
4	0.10762
5	-0.02957
6	-0.03707
7	0.11956
8	0.08355
9	-0.11864
10	-0.08545



(b)

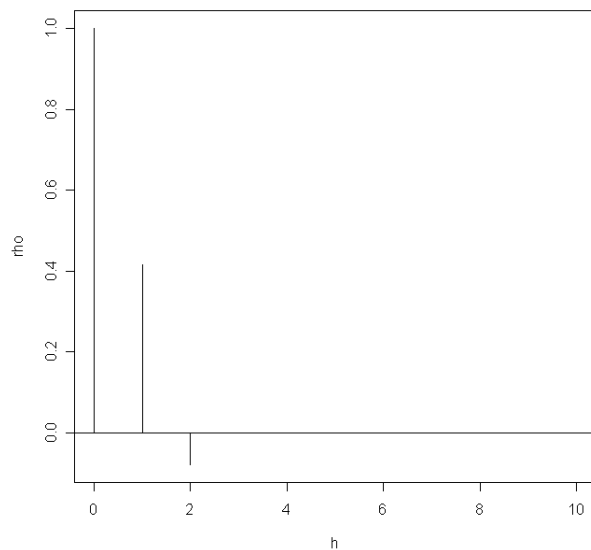


> rho

```
[1] 1.00000000 0.41584158 -0.07920792 0.00000000 0.00000000 0.00000000  
[7] 0.00000000 0.00000000 0.00000000 0.00000000 0.00000000
```

Sample correlation

LAG	CORR
0	1.00000
1	0.48489
2	-0.11192
3	-0.11021
4	0.06544
5	0.07460
6	-0.02726
7	0.03982
8	0.15145
9	-0.00337
10	-0.15456



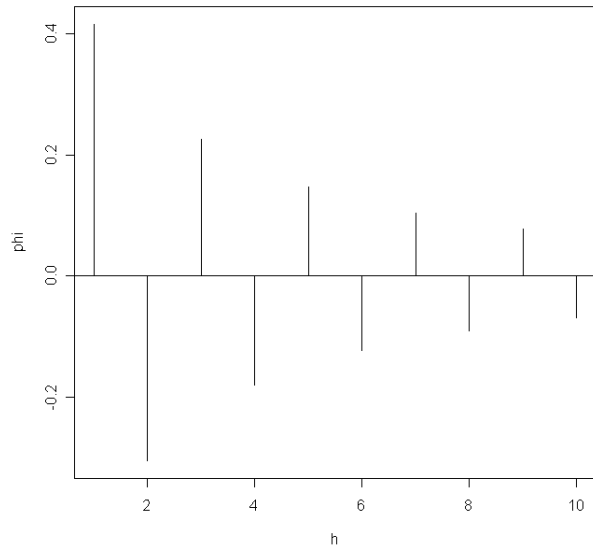
Phi=

```
[1] 0.41584158 -0.30484769 0.22626528 -0.17977023 0.14719240 -0.12324549  
[7] 0.10477787 -0.09006748 0.07805540 -0.06806003
```

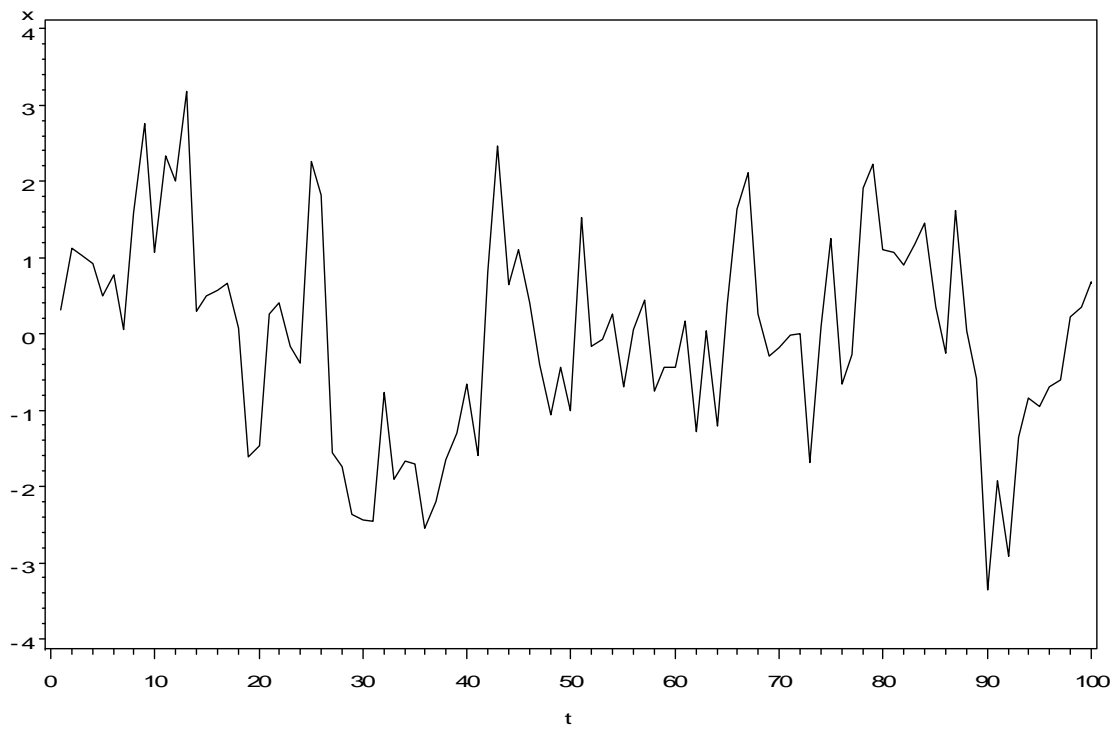
Sample partial correlation:

LAG	PARTCORR
1	0.48489
2	-0.45371
3	0.31063
4	-0.12254
5	0.07274
6	-0.08731

7	0.22823
8	-0.06454
9	-0.12724
10	0.04561



(c)

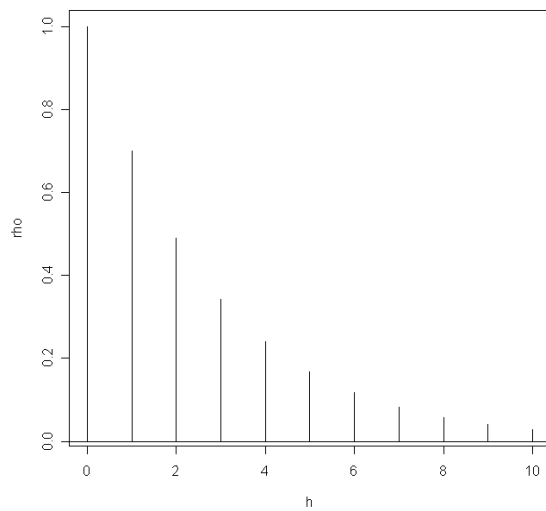


> rho=

```
[1] 1.0000000 0.7000000 0.4900000 0.3430000 0.2401000 0.1680700  
[7] 0.1176490 0.0823543 0.0576481 0.0403536 0.0282475
```

Sample correlation:

LAG	CORR
0	1.00000
1	0.62797
2	0.43622
3	0.33733
4	0.28717
5	0.13674
6	0.03329
7	0.00424
8	0.03839
9	0.04768
10	-0.05222

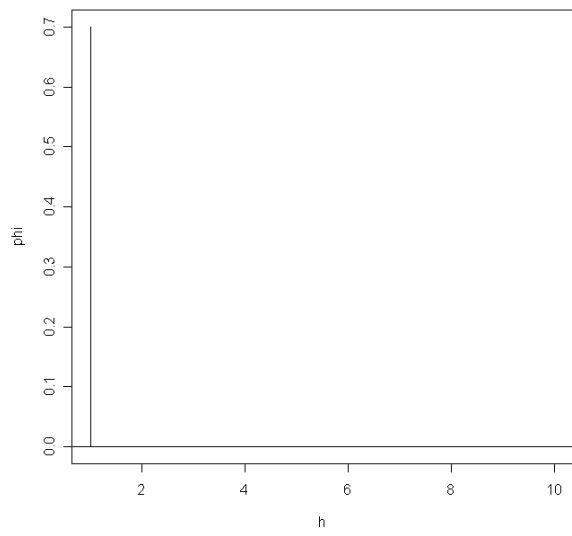


Phi=

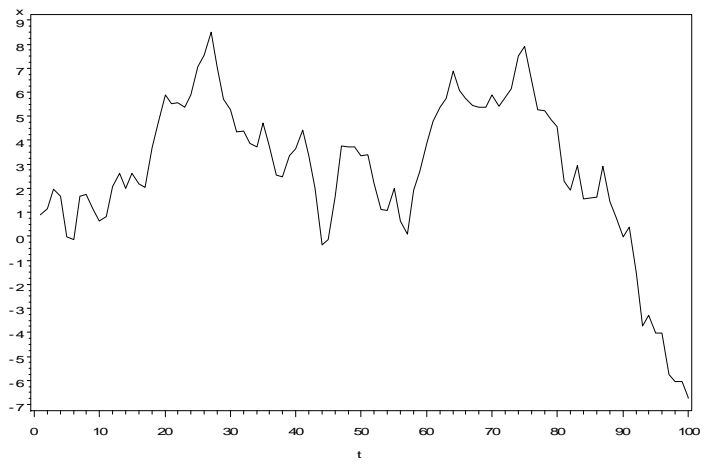
```
[1] 0.7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
```

Sample partial correlation:

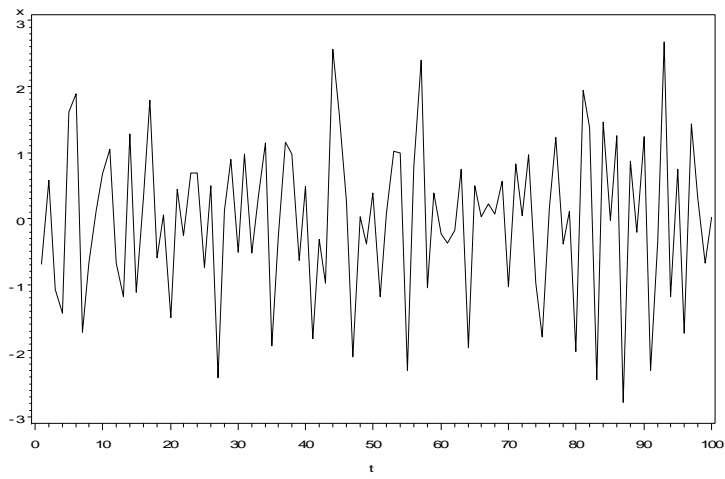
LAG	PARTCORR
1	0.62797
2	0.06914
3	0.06456
4	0.06206
5	-0.15062
6	-0.06490
7	0.01374
8	0.08253
9	0.04694
10	-0.15375



(d)



(e)

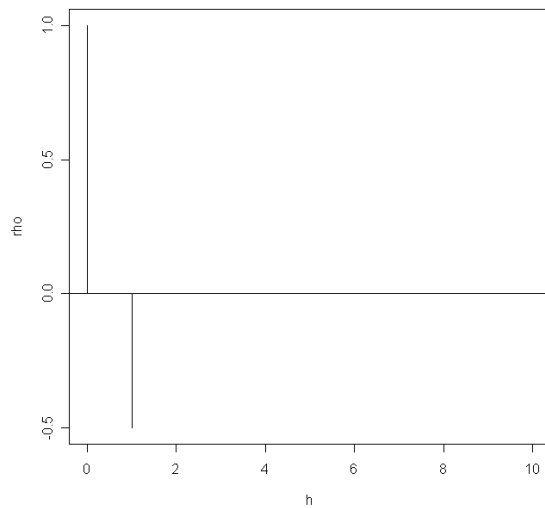


> rho

[1] 1.0 -0.5 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

Sample correlation:

LAG	CORR
0	1.00000
1	-0.29524
2	-0.19141
3	-0.11867
4	0.10495
5	0.07320
6	-0.11419
7	-0.03321
8	0.14352
9	0.07316
10	-0.29897



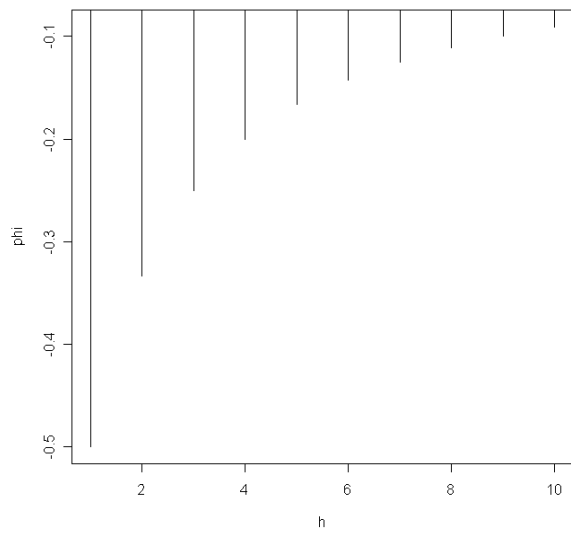
> phi

[1] -0.50000000 -0.33333333 -0.25000000 -0.20000000 -0.16666667 -0.14285714

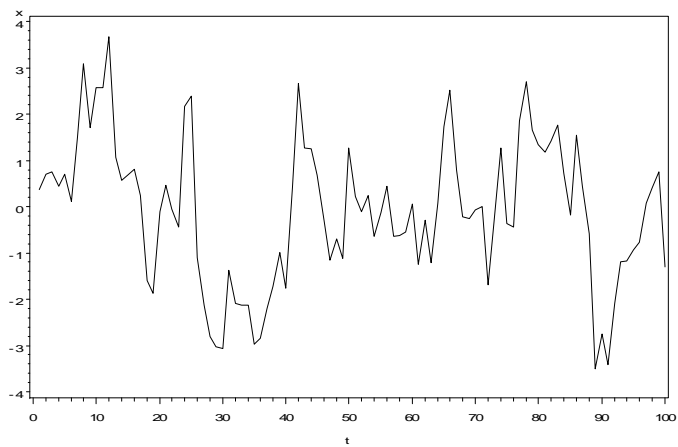
[7] -0.12500000 -0.11111111 -0.10000000 -0.09090909

Sample partial correlation:

LAG	PARTCORR
1	-0.29524
2	-0.30518
3	-0.34130
4	-0.18800
5	-0.09739
6	-0.20881
7	-0.21016
8	-0.03215
9	0.07173
10	-0.27620



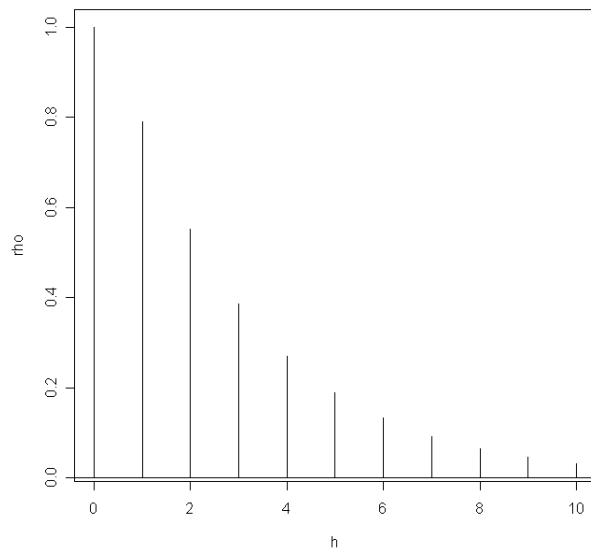
(f)



> rho

```
[1] 1.0000000 0.79026574 0.55318602 0.38723021 0.27106115 0.18974280
[7] 0.13281996 0.09297397 0.06508178 0.04555725 0.03189007
```

LAG	CORR
0	1.00000
1	0.73142
2	0.49753
3	0.37814
4	0.29676
5	0.14909
6	0.03097
7	-0.00873
8	0.02151
9	0.02563
10	-0.05958

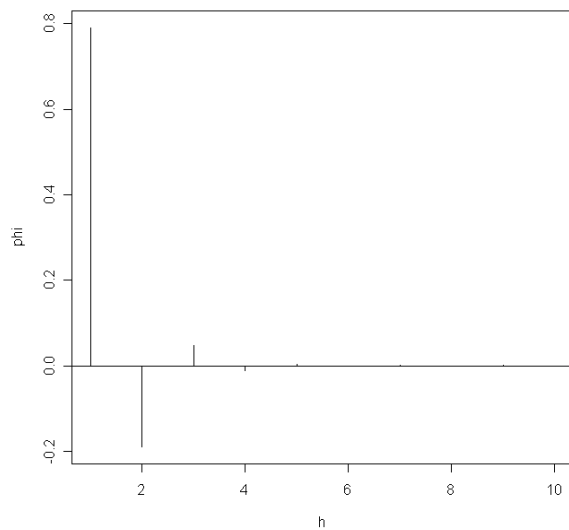


> phi

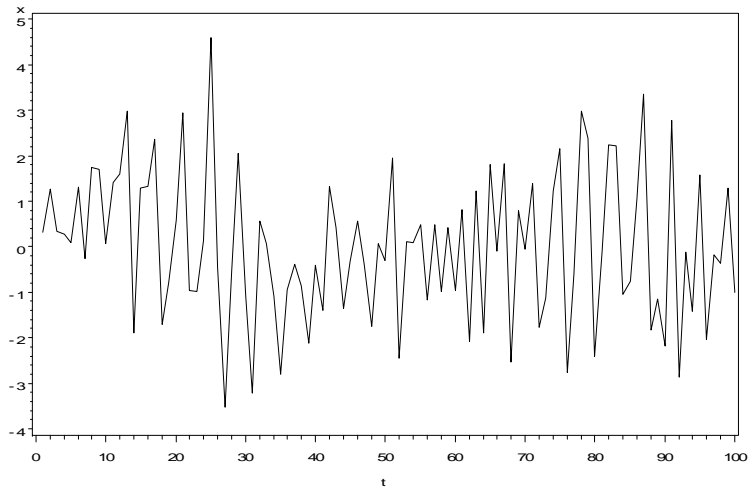
[1] 7.902657e-01 -1.899806e-01 4.738163e-02 -1.184369e-02 2.960907e-03

[6] -7.402294e-04 1.850581e-04 -4.626473e-05 1.156623e-05 -2.891570e-06

LAG	PARTCORR
1	0.73142
2	-0.08052
3	0.09488
4	0.00654
5	-0.17146
6	-0.03721
7	0.02877
8	0.09881
9	-0.00023
10	-0.17120



(g)

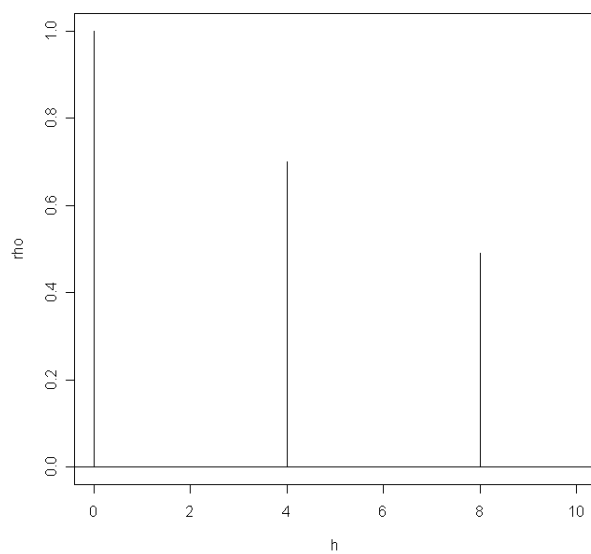


> rho

```
[1] 1.00 0.00 0.00 0.00 0.70 0.00 0.00 0.00 0.49 0.00 0.00
```

Sample correlation:

LAG	CORR
0	1.00000
1	-0.12469
2	-0.17607
3	-0.15536
4	0.76339
5	-0.04149
6	-0.17660
7	-0.20329
8	0.52930
9	0.05833
10	-0.15777



> phi

[1] 0.0 0.0 0.0 0.7 0.0 0.0 0.0 0.0 0.0 0.0

Sample partial correlation:

LAG	PARTCORR
1	-0.12469
2	-0.19465
3	-0.21735
4	0.73869
5	0.12549
6	-0.01980
7	-0.09487
8	-0.14894
9	0.07169
10	0.02346

