PartitionDAG Real Data Analysis

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1/21/2019

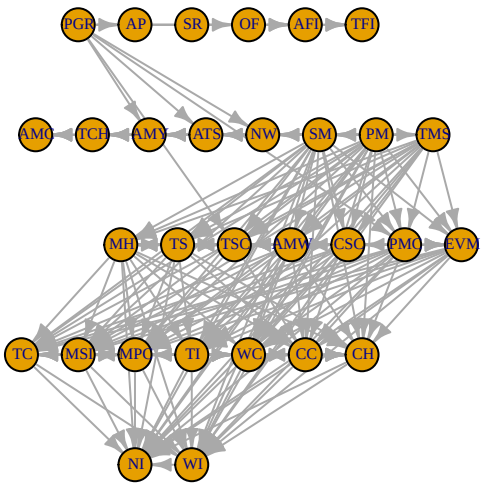
Partition DAG dairy cattle data

This script includes the dairy cattle data analysis for the partition-DAG paper.

5 group network

In this section we run partition Dag with 5 groups:

```
lambda = 4
B = partitionDAG::partial5(X = as.matrix(data),
                           l = lambda,
                           m1 = 6,
                           m2 = 14,
                           m3 = 21,
                           m4 = 28)$B
colnames(B) = colnames(data)
row.names(B) = colnames(data)
B = B[invPerm(rand_ordr),invPerm(rand_ordr)]
graphB = graph_from_adjacency_matrix(t(B), mode = 'directed', weighted = TRUE, diag = FALSE)
plot(graphB, layout = get_coords(5), vertex.size=15, vertex.label.dist = .1,
     vertex.label.cex = 0.5, edge.arrow.size = 0.5)
```



10 group network

In this section we run partition Dag with 10 groups:

```
lambda = 4
B = partitionDAG::partial10(X = as.matrix(data),
                            l = lambda,
                            m1 = 2,
                            m2 = 3,
```

```
                              m3 = 4,
                              m4 = 6,
                              m5 = 10,
                              m6 = 14,
                              m7 = 21,
                              m8 = 23,
                              m9 = 28)$B
colnames(B) = colnames(data)
row.names(B) = colnames(data)
B = B[invPerm(rand_ordr),invPerm(rand_ordr)]
graphB = graph_from_adjacency_matrix(t(B), mode = 'directed', weighted = TRUE, diag = FALSE)
plot(graphB, layout = get_coords(10), vertex.size=15, vertex.label.dist = .1,
     vertex.label.cex = 0.5, edge.arrow.size = 0.5)
```