

Title: Description of the files contained in CLBIC.zip.

Files:

1. **main.R** contains the main functions for the CLBIC and BIC methods for selecting the community number K , including implementations of the Spectral Clustering and SCORE algorithms. It also includes functions to generate correlated binary data as specified in Section 4.1 of the main manuscript.
2. **Table1.R** contains the codes for Table 1.
3. **Table2.R** contains the codes for Table 2.
4. **Table3.R** contains the codes for the comparison of the CLBIC approach with a Variational Bayes method in Table 3.
5. **Table4.R** contains the codes for the DCBM results of Table 4.
6. **Table5.R** contains the codes for the increasing K scenario of Table 5.
7. **DataAnalysis.R** contains the codes for the real data analysis in Sections 4.2.1 and 4.2.2.
8. **Trade.csv** is the international trade dataset of Section 4.2.1.
9. **TradeAttributes.csv** contains the node labels corresponding to the international trade dataset of Section 4.2.1.

Remarks:

1. Different settings and options (including total number of communities, community sizes, correlation among binary data, etc.) are included in the files Table1.R through Table5.R.
2. The files Trade.csv and TradeAttributes.csv have been reformatted from their original sources.