SuperCENT README

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This file is produced by `SuperCENT_README.Rmd` and includes description of the replication materials for "Network Regression and Supervised Centrality Estimation".

1 Folder structure

The folder structure is as follows.

- **code**: contains code to reproduce the results for simulations and case study. The two main files are:
  - `SuperCENT_simulation.Rmd`: it contains descriptions and codes for the simulation results. The corresponding report `SuperCENT_simulation.pdf` is generated by `SuperCENT_simulation.Rmd` using RMarkdown.
  - `SuperCENT_case_study_trade_premium.Rmd`: it contains descriptions and codes for the case study. The corresponding report `SuperCENT_case_study_trade_premium.pdf` is generated by `SuperCENT_case_study_trade_premium.Rmd` using RMarkdown.
  - Details instructions are within the files.
- **data_trade_premium**:
  - `FX_Sub.csv`: risk premium constructed based on Richmond, R. J. (2019). "Trade network centrality and currency risk premia." *The Journal of Finance*, 74(3), 1315-1361. See instructions here.
  - `real_gdp_long.csv`: GDP data generated using `construct_gdp_data.R`.
  - `trade_data_sub.csv`: bilateral trade data generated by `construct_trade_data.R`.
- **output_simulation**: contains the simulation results. Please download from Dropbox.
- **output_trade_premium**: contains the results for the case study.

2 Installation instructions

In order to replicate the results, one needs to use R and install all the relevant packages.

2.1 `SuperCENT` package

Install our `SuperCENT` package on github as follows.

```
if(!require("devtools")) install.packages("devtools")
if(!require("SuperCENT")) devtools::install_github("cccfran/SuperCENT")
```

2.2 Other packages

We use `pacman` package to manage packages. Run the following chunk to install all the packages we will use.

```
if (!require("pacman")) install.packages("pacman")
pacman::p_load(data.table, matrixStats, dplyr, ggplot2, igraph,
               latex2exp, tidyverse,
               irlba, xtable, stargazer, circlize, kableExtra,
               ggpubr, grid, gridExtra, gtable, facetscales)
```