STEPS IN NETWORK STATISTICS AND DEGREE DISTRIBUTION ANALYSIS

* This analysis has been pursued within two scale: EU27 network and global network.
  + EU27 network contains only 27 member countries of the European Union.
  + Global network contains the countries which is a part of global trade within the year in question.
* In Excel files for the EU, we have import matrices for the years 2019, 2020 and 2021. These are 27x27 matrices for each year and each product.
  + Excel sheet 1: import matrix for the year 2019
  + Excel sheet 2: import matrix for the year 2020
  + Excel sheet 3: import matrix for the year 2021
* In Excel files for globe, we have import matrices for the years 201, 2020 and 2021 for each medical product.
  + The dimension of the matrix for facemask is 208x208 in 2019 and 2020, and 209x209 in 2021.
  + The dimension of the matrix for ppe is 180x180 in 2019 and 2021, and 185x185 in 2020.
  + The dimension of the matrix for sanitizer is 206x206 in 2019, and 208x208 in 2020 and 2021.
  + The dimension of the matrix for ventilator is 203x203 in 2019, 2020 and 2021.
* We utilized iGraph and tnet packages packages in R to obtain descriptive network statistics in Table 7 in the paper. The functions that we used for the analysis are:
  + clustering\_w(net, measure = "am"): Function in tnet package for clustering coefficient (can be reached at [tnet: Weighted, Two-Mode, and Longitudinal Networks Analysis (r-project.org)](https://cran.r-project.org/web/packages/tnet/tnet.pdf) )
  + assortativity(graph, types1, types2 = NULL, directed = TRUE): Function in iGraph package for assortativity coefficient (can be reaced at [igraph: Network Analysis and Visualization (r-project.org)](https://cran.r-project.org/web/packages/igraph/igraph.pdf) )
  + reciprocity(graph, ignore.loops = TRUE, mode = c("default", "ratio")): Function in iGraph package for reciprocity coefficient (can be reaced at [igraph: Network Analysis and Visualization (r-project.org)](https://cran.r-project.org/web/packages/igraph/igraph.pdf) )
  + edge\_density(graph, loops = FALSE): Function in iGraph package for density coefficient (can be reaced at [igraph: Network Analysis and Visualization (r-project.org)](https://cran.r-project.org/web/packages/igraph/igraph.pdf) )
* For the results of degree distribution analysis in Table 8, we utilized two packages: *moments* and *iGraph*.
  + Skewness and kurtosis values are obtained by using moment package:
    - skewness(x, na.rm = FALSE): Function in moment package for skewness (can be reached at [moments: Moments, Cumulants, Skewness, Kurtosis and Related Tests (r-project.org)](https://cran.r-project.org/web/packages/moments/moments.pdf))
    - kurtosis(x, na.rm = FALSE): Function in moment package for kurtosis (can be reached at [moments: Moments, Cumulants, Skewness, Kurtosis and Related Tests (r-project.org)](https://cran.r-project.org/web/packages/moments/moments.pdf))
  + Kolmogorov-Smirnov test for degree distribution is applied via iGraph package. Transpose of import matrices submitted in the Excel files, export matrices in other words, were used for degree distribution analysis.
    - fit\_power\_law( x, xmin = NULL, start = 2, fit\_power\_law 175 force.continuous = FALSE, implementation = c("plfit", "R.mle"), ... ): Function in iGraph package for Kolmogorov-Smirnov test. (can be reaced at [igraph: Network Analysis and Visualization (r-project.org)](https://cran.r-project.org/web/packages/igraph/igraph.pdf) )