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Data Analytics  
Academic Year 2022-23  
**Course Assignment N.30: Bitcoin OTC trust network**  
Prof. Fabio Crestani

For this assignment you will work individually to carry out simple tasks of data analysis given a specific dataset. The goal of this assignment is to use Python and complementary libraries on a given dataset in order to *explore* and *analyze* the given data and *draw conclusions*.

### Description

This is who-trusts-whom network of people who trade using Bitcoin on a platform called [Bitcoin OTC](#). Since Bitcoin users are anonymous, there is a need to maintain a record of users' reputation to prevent transactions with fraudulent and risky users. Members of Bitcoin OTC rate other members in a scale of -10 (total distrust) to +10 (total trust) in steps of 1. There are 5881 nodes and 35592 edges.

Your goal is to:

- Explore and describe the data (preprocess the data, visualize the variables with different graphs, distribution of the variables).
  - While exploring the data, define research questions and answer them such as which are most popular users? Which are highly connected or isolated from others? What is the percentage of positive edges, etc.
- Plot the graph that shows the links between the different users, *i.e.*, how the users are connected.
  - Use graphics to enlarge the users that have most centrality, etc.

### Submission procedure and evaluation

You should produce a report of your work and its evaluation along with the source code. It will be a concise explanation of how you tackled the different tasks, the reasons of your choices, successive conclusions, graphs you produced, results of the decisions and their accuracy *etc.*

Use Jupyter Notebook to produce results of the commands in a single .ipynb file. For more information check: <https://jupyter.org/documentation>

The report (max 5 pages) and the code of the project need to be submitted via iCorsi.

Please, upload all the required items in a single file and name it following the structure: **noProject\_FirstnameLastname.[zip|tar.gz|7z]**. For instance, 05\_NameSurname.tar.gz

The dataset regarding this project can be downloaded from the link available at iCorsi.