Assignment 4

Two customers are attempting to make a connection on their phones using an unknown Viber protocol. You are supposed to identify IP addresses of Viber servers and customers' phone IP and MAC addresses.

1. Load data and compute basic characteristics of the network:
    - use file `viber.csv`
    - total amount of devices,
    - total amount of transmitted packets,
    - total size of transmitted packets,
    - total amount of source IPs,
    - total amount of destination IPs.
    - HINT:
        - **we are only interested in traffic through UDP and TCP protocols;**
        - column `ip.proto` contains protocol ID (tcp = 6, udp = 17);
        - every line of a `.csv` is one packet;
        - column `frame.len` contains the packet length in bytes;
        - `eth.src` and `eth.dst` contain source and destination MAC, respectively;
        - `ip.src` and `ip.dst` contain source and destination IP;
        - the amount of devices is equal to the amount of unique MAC addresses.
2. Visualize local communication network between MACs and IPs.
3. Visualize local communication network between IPs - two IPS communicate if there was at least one packet transferred between them..
4. Identify Viber servers according to the protocol DNS .
    - HINT:
        - use file `v-dns.csv`;
        - IP addresses are in the column `Source`;
        - column `Info` contains info about DNS request - search it for a keyword `viber.com` and find all domains of Viber;

   - connect IP addresses and domains of Viber and show them in a table in your report.

5. Find devices that communicated with those IPs.