Flow of the program

1. Run the main.py rule\_list.txt incoming\_packets.txt
2. Reads the rule\_list.txt line by line and:

* Creating Rule objects for each rule form the rule\_list as follows: **Rule**(src\_sub, dst\_sub, protocol, src\_port, dst\_port, action)
  + If the src\_sub & dst\_sub = \* => Do nothing
  + If the src\_sub & dst\_sub = binary numbers
    - Use extract\_info function to get the following info and assign them to Rule properties
      * src\_ip
      * src\_netmask
      * src\_sub\_binary
* Append the created Rule objects to rules= []

1. Create an object Node () as root.
2. Go over rules [] one by one and extract src\_sub\_binary and dst\_sub\_binary and append the information into two separate lists, src\_sub\_binaries and dst\_sub\_binaries
3. Go over the src\_sub\_binaries list one by one and initiates the algorithm using **add\_src\_nodes**(node=root, rule=src\_sub\_binaries[i], index=0, dst\_rule= dst\_sub\_binaries[i], rule\_index=i)

* If rule = src\_sub\_binaries = None then rule = [], this happens when we have \* as a rule.