Our goal is to generate an aged bipartite network which is changing through time using joint degree distribution.

Each node in the network has four attributes: age, gender, degree, average number of contact per partner per unit time, and primary partner.

Joint degree distribution is presented as a matrix which its rows refer to upper node’s degree distribution and it’s columns refer to lower nodes’s degree distribution. Matrices for some example of bipartite networks (romance, malaria, southern women,…) are shown in the file graphs.py.

* The first step is generating the background bipartite network (the network at time 0). The function Generate\_Aged\_Network.py get matrix and a method of generation and assigns an aged network.
* In the next step, we choose primary partners for lower nodes (men) based on their age and their partner’s age and degree, these primary partners are kept forever, the rest are casual partners whom are changed in the next time step (6 month) , the script find\_primary\_partners.py get the network from previous step and give it back with nodes assigned primary partners.