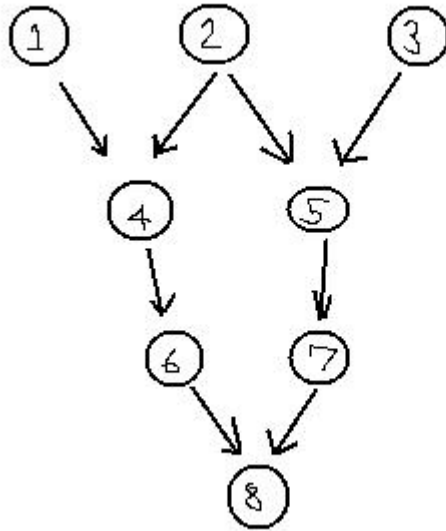


To use NetEst2, consider the following network:



To get the connections matrix for this graph use the fact that there are 8 agents and  $[ij_1j_2...j_k]$  encodes the information that agent  $i$  sends information to agents  $j_1$  through  $j_k$ .

So, we use  $E = \text{ConnectionMatrix}(8, [1\ 4], [2\ 4\ 5], [3\ 5], [4\ 6], [5\ 7], [6\ 8], [7\ 8])$  to get the connections above encoded.

Then  $\text{NetEst2}(E, [3, 2, 2, 1])$  uses our connections along with the fact that there are 3 agents in the first layer, 2 in the second layer, 2 in the third layer, and 1 in the last layer to get our estimates. The final matrix tells you the weights the last agent applies the the first layer in the last column and first 3 entries. It also says how it combines the previous layer in the last column and 6th and 7th entries.

When I run this I get the matrix whose rightmost column reads:

$$\begin{pmatrix} .25 \\ .5 \\ .25 \\ 0 \\ 0 \\ .5 \\ .5 \\ 0 \end{pmatrix}$$

The first three entries tell us that in the best possible estimate, the second agent is more heavily weighted. The 6th and 7th entries tell us that the optimal weights for the final observer to apply to the received information are to equally weight the input from 6 and 7.