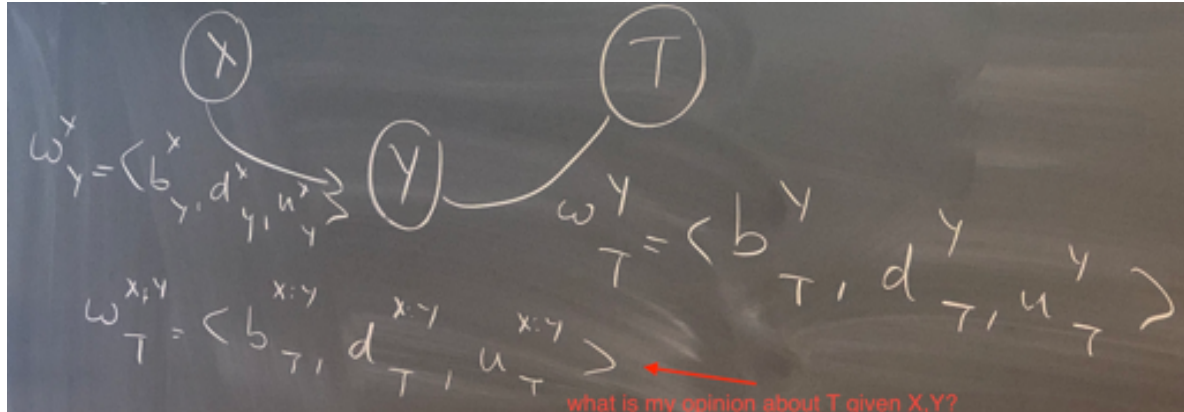


L7 Trust continues

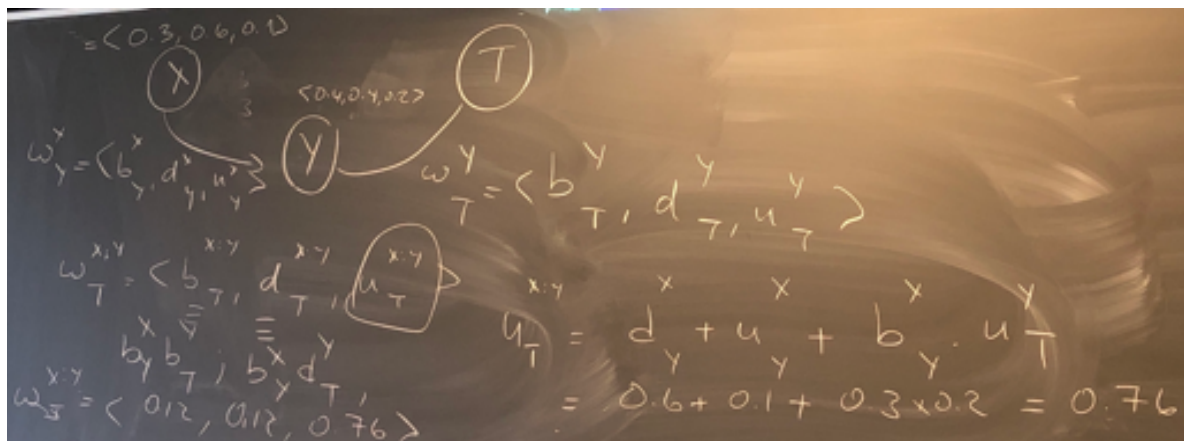
Calculating belief



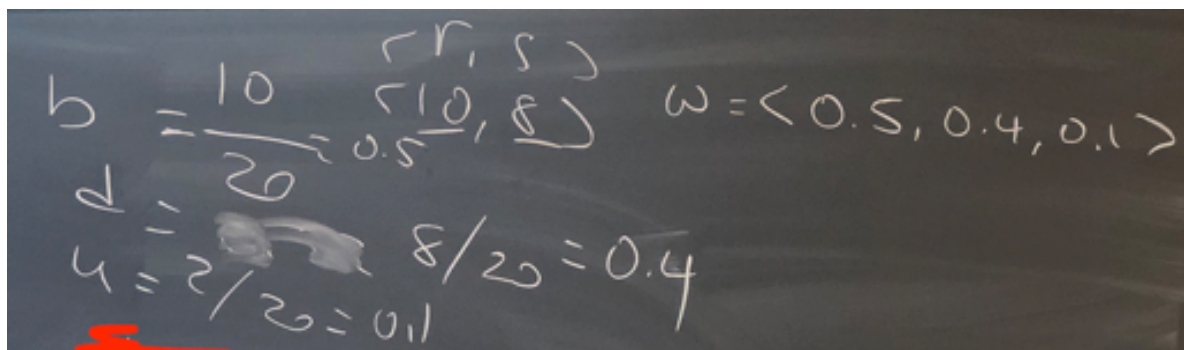
Example with

X $b=0.3, d=0.6, u=0.1$

Y $b=0.4, d=0.4, u=0.2$



Individual belief values via r,s



What is the reputation of T?

_first, you look for agents with beliefs about T

_secondly, merge the beliefs

_third, you find r;s:

$$Rep = \left(E(p) = \frac{r+1}{r+s+z} \right) - 0.5 \times 2$$

Example (C through B):

$Rep(127, 0.36) = 2 \times 4, 0.1$
 $\frac{2 \times 27}{2 \times 27 + 36} = 0.625$
 $= (0.625 + 0.5) \times 2 = 0.25$

$Rep = \left(E(p) = \frac{r+1}{r+s+z} \right) - 0.5 \times 2$
 $b = \frac{r}{r+s+z}$
 $d = \frac{s}{r+s+z}$
 $u = \frac{z}{r+s+z}$

$w^{A,B}_C = \langle 0.35, 0.1, 0.55 \rangle \Rightarrow r, s$
 $r = 2 \times \frac{b}{u} = 2 \times \frac{0.35}{0.55} = 1.27$
 $s = 2 \times \frac{d}{u} = 2 \times \frac{0.1}{0.55} = 0.73$

Example (C through D (in addition to the last r,s from above - I have gained more experience which can just be added to the previous)):

$Rep = \left(E(p) = \frac{r+1}{r+s+z} \right) - 0.5 \times 2$
 $b = \frac{r}{r+s+z}$
 $d = \frac{s}{r+s+z}$
 $u = \frac{z}{r+s+z}$

$w^{A,D}_C = \langle 0.5, 0.2, 0.3 \rangle \Rightarrow (r, s) \langle 1.27, 0.36 \rangle$
 $r = 2 \times \frac{b}{u} = 2 \times \frac{0.5}{0.3} = 3.33$
 $s = 2 \times \frac{d}{u} = 2 \times \frac{0.2}{0.3} = 1.33$
 $r, s = \langle 4.6, 1.69 \rangle$

$\frac{5.6}{5.6 + 2.69} = \frac{r+1}{r+s+z} - 0.5$
 $\frac{5.6}{8.29} = \frac{r+1}{4.6+1.69+z} - 0.5$
 $0.675 = \frac{r+1}{6.29+z} - 0.5$
 $1.175 = \frac{r+1}{6.29+z}$
 $1.175(6.29+z) = r+1$
 $7.38 + 1.175z = r+1$
 $6.38 + 1.175z = r$

Referral Systems

Model

(the main idea - agent can evaluate an answer to the service request)

$$\theta = [0.2, 0.8, 0.3]$$

or Agent 1

models:

$$\theta_{\text{Agent 2}} = [0.1, 0.8, 0.8]$$

$$s = 0.6$$

$$\theta \otimes E = \frac{\sum_{t=1}^n q_t e_t}{\sqrt{n \sum_{t=1}^n q_t^2}}$$

$$= \frac{0.02 + 0.64 + 0.24}{\sqrt{3(0.04 + 0.64 + 0.9)}}$$