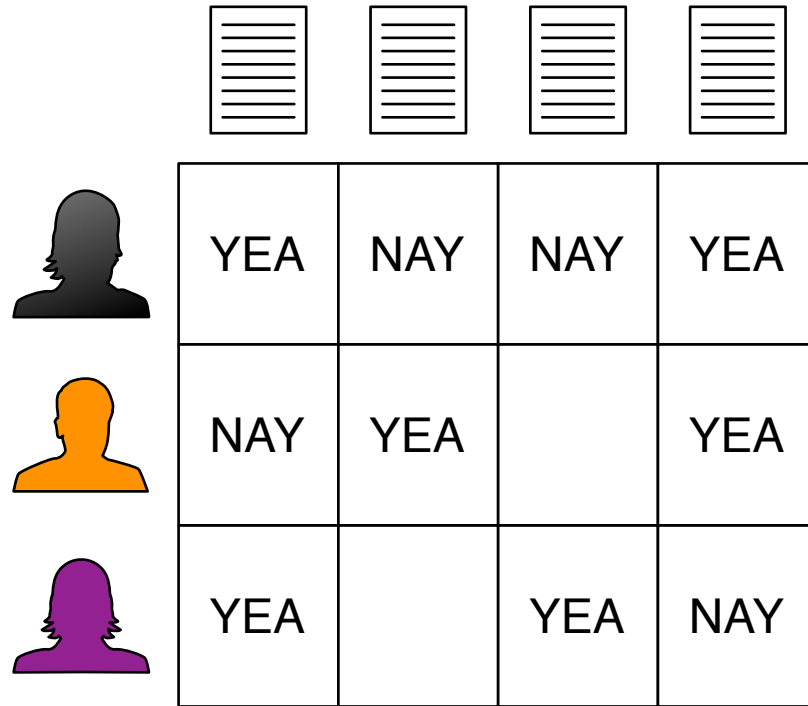









## Legislator a votes 'Yea' on bill b with probability



|  |   |   |   |   |
|--|---|---|---|---|
|  |  |  |  |  |
|  | YEA   | NAY   | NAY   | YEA   |
|  | NAY   | YEA   |   | YEA   |
|  | YEA   |   | YEA   | NAY   |

One-dimensional ideal point  
of legislator a

$$p(v_{a,b} = \text{Yea}) = \Phi(u_a x_b + y_b)$$

Polarity of bill b

Popularity of bill b