Fuzzy

today

A somewhat cynical analyst gives you the following rules regarding the job a recent college grad is likely to get:

> IF their grades are high
> AND they have good connections
> THEN their starting salary will be high
>
> IF their grades are high
> AND they have bad connections
> THEN their starting salary will be medium
>
> IF their grades are low
> AND they have good connections
> THEN their starting salary will be high
>
> IF their grades are low
> AND they have bad connections
> THEN their starting salary will be low

The analyst can pin down values for some of these sets. On the grades scale (measured by GPA):

$$\begin{aligned} \text{high} &= \{0/2.3, \quad 1/3.8\} \\ \text{low} &= \{1/2.3, \quad 0/3.8\} \end{aligned}$$

(This is an *ad hoc* notation that gives points with zero set membership and full set membership; assume they are linearly connected.)

On the starting salary scale:

$$\begin{aligned} \text{lucrative} &= \{0/60\text{K}, \quad 1/100\text{K}\} \\ \text{high} &= \{0/50\text{K}, \quad 1/60\text{K}, \quad 0/100\text{K}\} \\ \text{medium} &= \{0/15\text{K}, \quad 1/30\text{K}, \quad 1/50\text{K}, \quad 0/60\text{K}\} \\ \text{low} &= \{1/15\text{K}, \quad 0/30\text{K}\} \end{aligned}$$

"Connections" is just too nebulous a concept to define numerically, but you can estimate a number directly in each individual situation. Draw graphs of the grades and salary scales. Then, consider a student with decent (good = .6, bad = .4) connections and a 3.5 GPA, and use fuzzy logic to estimate their starting salary.