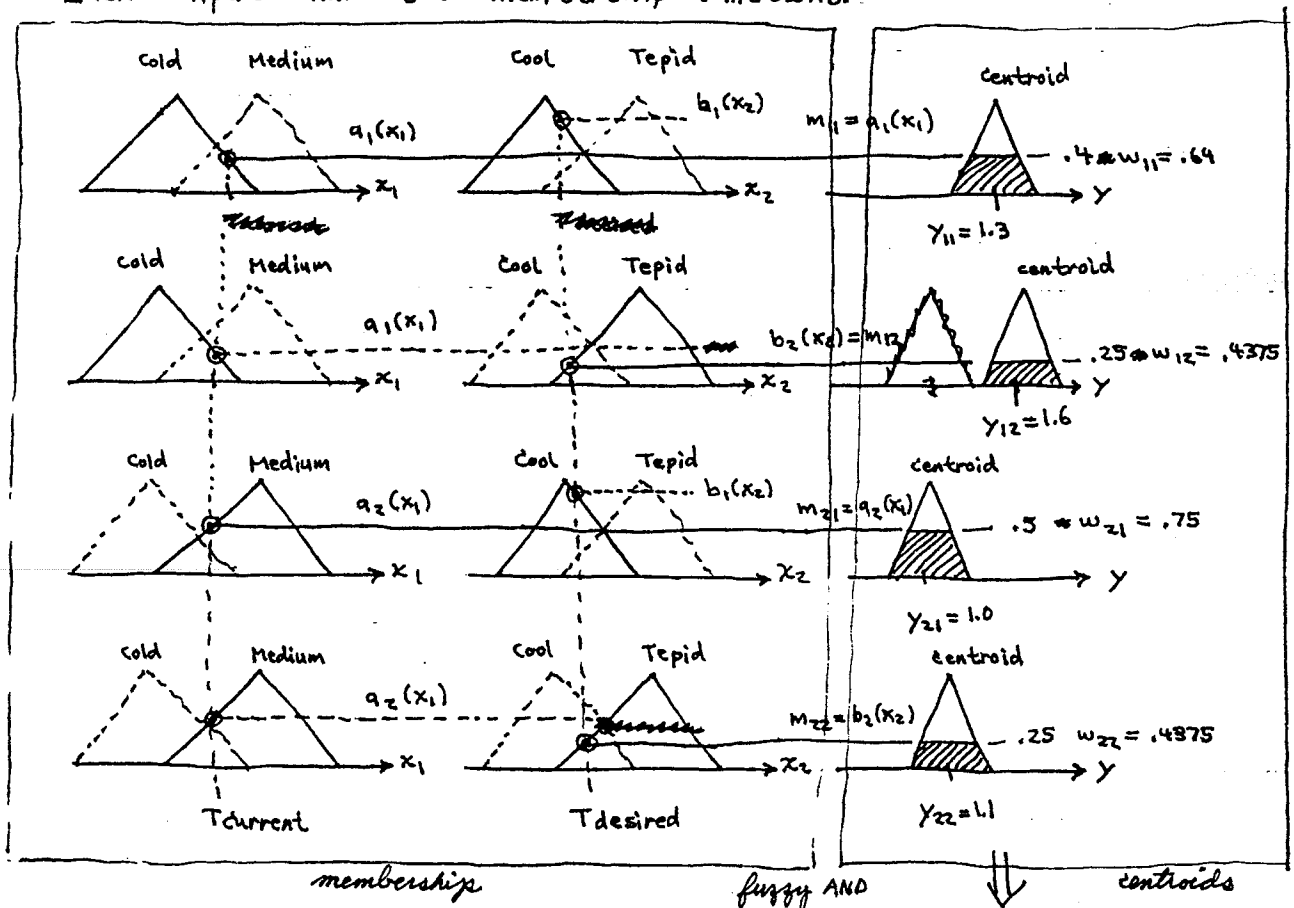
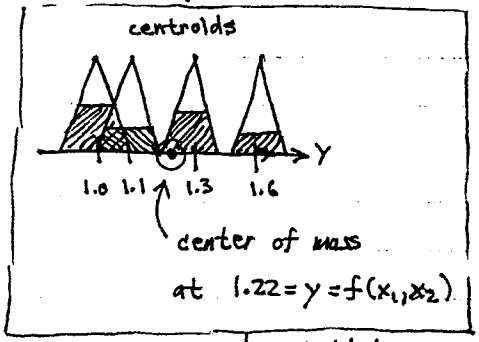
ex: The following diagram summarizes the calculations performed in a fuzzy logic network. The network has two inputs: current temperature °F = x_1, and desired temperature °F = x_2. The network outputs a gas flow level $y = f(x_1, x_2)$ for a furnace. Each input has two membership functions.





$$y = \frac{(1.3)(.64) + (1.6)(.4375) + (1.0)(.75) + (1.1)(.4375)}{(.64) + (.4375) + (.75) + (.4375)}$$

$$= \frac{.832 + .7 + .75 + .48125}{2.265} = 1.22$$

$$= \frac{\sum_{i,j} y_{ij} w_{ij}}{\sum_{i,j} w_{ij}}$$

normalized weighted sum

$$y = f(x_1, x_2)$$