

**Problem 1. 3.5**

Propose a three-level cascade where when one level rejects, the next one is used as in equation 3.10. How can we fix the  $\lambda$  on different levels?

$$\lambda_{ik} = \begin{cases} 0 & i = k \\ \lambda & i = K + 1 \\ 1 & otherwise \end{cases} \quad (1)$$

**Solution**

**Problem 2. 3.9**

Show that as we move an item from the consequent to the antecedent, confidence can never increase:  $\text{confidence}(ABC \rightarrow D) \leq \text{confidence}(AB \rightarrow CD)$ .

**Solution**

### **Problem 3. 3.10**

Associated with each item sold in basket analysis, if we also have a number indicating how much the customer enjoyed the product, for example, on a scale of 0 to 10, how can you use this extra information to calculate which item to propose to a customer?

### **Solution**