



## Knowledge Engineering Course

### Activity 4: Interconverting Decision Tables and Decision Trees

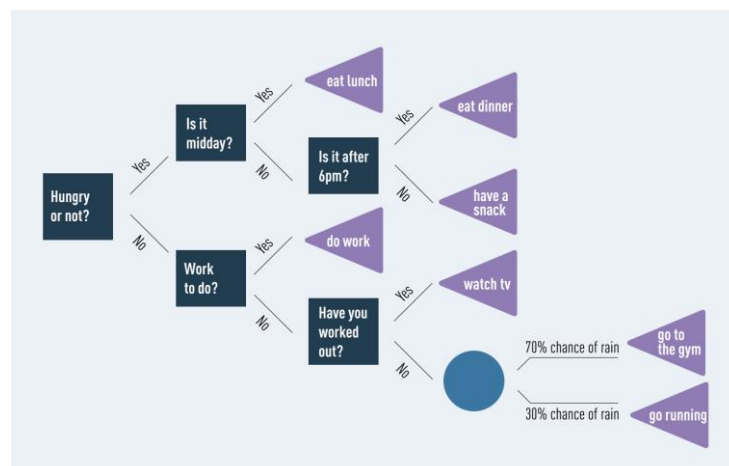
This activity is designed to immerse participants in the dynamic realm of knowledge management through the transformation of decision tables to decision trees and vice versa. This experiential process serves as a cornerstone for fostering effective knowledge representation and refining decision-making strategies.

In a collaborative setting, participants actively work together to convert decision tables into decision trees and vice versa, delving into the intricacies of these two visual representations. The primary goal is to augment participants' understanding and application of complex decision structures, offering a tangible bridge between theory and practice.

To enhance the experiential learning, the instructor initiates the activity by demonstrating the utilization of a Decision Table Creator tool. This tool not only expedites the creation and validation of decision tables but also serves as a real-world example of how technology can streamline and optimize knowledge management processes.

#### Case study 1:

Transform the following decision tree into a correspondent decision table:



## Case study 2:

Transform the following decision table into a correspondent decision tree:

The screenshot shows the 'Decision Table \* - Visual Paradigm Enterprise' window. The title bar includes 'Dash', 'Project', 'ITSM', 'Agile', 'Diagram', 'View', 'Team', 'Tools', 'Modeling', 'Window', and 'Help'. The main area displays 'Example 1: Airfare discounts'. The table is divided into 'Conditions' and 'Actions' sections, each with 8 rules.

		Rules							
Conditions		1	2	3	4	5	6	7	8
C1. Infant passengers (age: < 2)		Y	Y						
C2. Youth passengers (age: 2 to 16)				Y	Y				
C3. Frequent flyer						Y	Y		
C4. Domestic flights		Y							
C5. International flights			Y						Y
C6. Early reservation					Y		Y	Y	
C7. Off-season traveling									Y
Actions		1	2	3	4	5	6	7	8
A1. Offer 10% discounts				X				X	
A2. Offer 15% discounts						X			X
A3. Offer 20% discounts					X		X		
A4. Offer 70% discounts			X						
A5. Offer 80% discounts		X							

## Case study 3:

Transform the following decision table into a correspondent decision tree:

		Rules							
Conditions		1	2	3	4	5	6	7	8
Condition 1		Y	Y	Y	Y	N	N	N	N
Condition 2		Y	Y	N	N	Y	Y	N	N
Condition 3		Y	N	Y	N	Y	N	Y	N
Actions		1	2	3	4	5	6	7	8
Action 1		X		X					
Action 2								X	X
Action 3		X				X	X		
Action 4			X		X				