

Challenge July-2022

Evaluate Team Performance

Description from website: <https://dmcommunity.org/challenge/challenge-july-2022/>

Team	Player	Game Date	Efficiency
Mustungs	Brown	4/1/2022	good
	Brown	4/2/2022	better
	Brown	4/3/2022	best
	Robinson	4/1/2022	worst
	Robinson	4/2/2022	better
	Robinson	4/3/2022	best
	Smith	4/1/2022	bad
	Smith	4/2/2022	good
	Smith	4/3/2022	bad
Eagles	Black	4/1/2022	good
	Black	4/2/2022	better
	Black	4/3/2022	best
	White	4/1/2022	worst
	White	4/2/2022	better
	White	4/3/2022	best
	Green	4/1/2022	bad
	Green	4/2/2022	good
	Green	4/3/2022	worst

Your decision model should evaluate performance of different teams based on efficiency of their players. On the left you can see how different players performed during different games. Each player receives 5 points for “best” efficiency, 3 points for “better” efficiency, 2 for “good” efficiency. You need to subtract 2 points for “bad” efficiency and 5 points for “worst” efficiency. Which team got the most points?

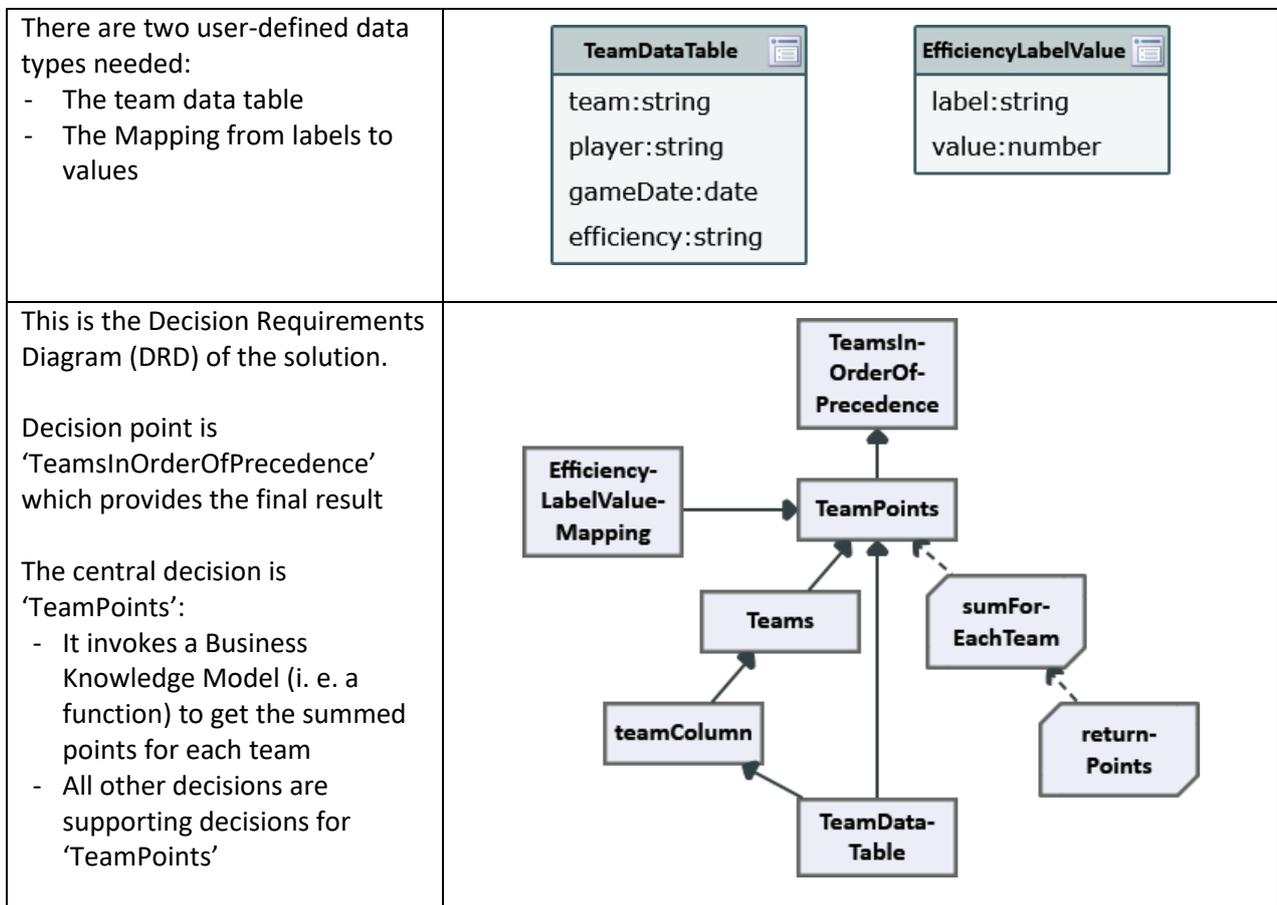
Please [submit](#) your solutions using your favorite BR/DM tools.

Solution:

Notation: Decision Model and Notation (DMN)

Tool: Innovator, MID the modeling company

By Wilfried Kurth



The Decisions and Business Knowledge Models (BKM) in detail

<p>DMN provides the boxed expression type 'relation' to provide embedded data in a decision.</p> <p>It would have been also possible to model it as 'Input data' to hand it over to the decision as external data. The structure keeps the same.</p>	<div data-bbox="624 255 1390 1055"> <p><input type="checkbox"/> TeamDataTable Typ: Entscheidung</p> <table border="1"> <thead> <tr> <th></th> <th>team</th> <th>player</th> <th>gameDate</th> <th>efficiency</th> </tr> </thead> <tbody> <tr><td>1</td><td>"Mustangs"</td><td>"Brown"</td><td>date("2022-04-01")</td><td>"good"</td></tr> <tr><td>2</td><td>"Mustangs"</td><td>"Brown"</td><td>date("2022-04-02")</td><td>"better"</td></tr> <tr><td>3</td><td>"Mustangs"</td><td>"Brown"</td><td>date("2022-04-03")</td><td>"best"</td></tr> <tr><td>4</td><td>"Mustangs"</td><td>"Robinson"</td><td>date("2022-04-01")</td><td>"worst"</td></tr> <tr><td>5</td><td>"Mustangs"</td><td>"Robinson"</td><td>date("2022-04-02")</td><td>"better"</td></tr> <tr><td>6</td><td>"Mustangs"</td><td>"Robinson"</td><td>date("2022-04-03")</td><td>"best"</td></tr> <tr><td>7</td><td>"Mustangs"</td><td>"Smith"</td><td>date("2022-04-01")</td><td>"bad"</td></tr> <tr><td>8</td><td>"Mustangs"</td><td>"Smith"</td><td>date("2022-04-02")</td><td>"good"</td></tr> <tr><td>9</td><td>"Mustangs"</td><td>"Smith"</td><td>date("2022-04-03")</td><td>"bad"</td></tr> <tr><td>10</td><td>"Eagles"</td><td>"Black"</td><td>date("2022-04-01")</td><td>"good"</td></tr> <tr><td>11</td><td>"Eagles"</td><td>"Black"</td><td>date("2022-04-02")</td><td>"better"</td></tr> <tr><td>12</td><td>"Eagles"</td><td>"Black"</td><td>date("2022-04-03")</td><td>"best"</td></tr> <tr><td>13</td><td>"Eagles"</td><td>"White"</td><td>date("2022-04-01")</td><td>"worst"</td></tr> <tr><td>14</td><td>"Eagles"</td><td>"White"</td><td>date("2022-04-02")</td><td>"better"</td></tr> <tr><td>15</td><td>"Eagles"</td><td>"White"</td><td>date("2022-04-03")</td><td>"best"</td></tr> <tr><td>16</td><td>"Eagles"</td><td>"Green"</td><td>date("2022-04-01")</td><td>"bad"</td></tr> <tr><td>17</td><td>"Eagles"</td><td>"Green"</td><td>date("2022-04-02")</td><td>"good"</td></tr> <tr><td>18</td><td>"Eagles"</td><td>"Green"</td><td>date("2022-04-03")</td><td>"worst"</td></tr> </tbody> </table> </div>		team	player	gameDate	efficiency	1	"Mustangs"	"Brown"	date("2022-04-01")	"good"	2	"Mustangs"	"Brown"	date("2022-04-02")	"better"	3	"Mustangs"	"Brown"	date("2022-04-03")	"best"	4	"Mustangs"	"Robinson"	date("2022-04-01")	"worst"	5	"Mustangs"	"Robinson"	date("2022-04-02")	"better"	6	"Mustangs"	"Robinson"	date("2022-04-03")	"best"	7	"Mustangs"	"Smith"	date("2022-04-01")	"bad"	8	"Mustangs"	"Smith"	date("2022-04-02")	"good"	9	"Mustangs"	"Smith"	date("2022-04-03")	"bad"	10	"Eagles"	"Black"	date("2022-04-01")	"good"	11	"Eagles"	"Black"	date("2022-04-02")	"better"	12	"Eagles"	"Black"	date("2022-04-03")	"best"	13	"Eagles"	"White"	date("2022-04-01")	"worst"	14	"Eagles"	"White"	date("2022-04-02")	"better"	15	"Eagles"	"White"	date("2022-04-03")	"best"	16	"Eagles"	"Green"	date("2022-04-01")	"bad"	17	"Eagles"	"Green"	date("2022-04-02")	"good"	18	"Eagles"	"Green"	date("2022-04-03")	"worst"
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<p>Each efficiency category has a corresponding score which is also provided by a relation</p>	<div data-bbox="804 1115 1203 1435"> <p><input type="checkbox"/> EfficiencyLabelValueMapping Typ: Entscheidung</p> <table border="1"> <thead> <tr> <th></th> <th>label</th> <th>value</th> </tr> </thead> <tbody> <tr><td>1</td><td>"best"</td><td>5</td></tr> <tr><td>2</td><td>"better"</td><td>3</td></tr> <tr><td>3</td><td>"good"</td><td>2</td></tr> <tr><td>4</td><td>"bad"</td><td>-2</td></tr> <tr><td>5</td><td>"worst"</td><td>-5</td></tr> </tbody> </table> </div>		label	value	1	"best"	5	2	"better"	3	3	"good"	2	4	"bad"	-2	5	"worst"	-5																																																																													
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<p>The decision 'teamColumn' has the boxed expression type 'literal expression'. The used FEEL Expression selects the column 'team' from the relation 'TeamDataTable'.</p> <p>The decision 'Teams' has the boxed expression type 'context' with two context entries: the first to determine the number of different teams and the second to determine their names</p>	<div data-bbox="603 1491 1158 2022"> <p><input type="checkbox"/> teamColumn Typ: Entscheidung</p> <p><code>TeamDataTable.team</code></p> <hr/> <p><input type="checkbox"/> Teams Typ: Entscheidung</p> <table border="1"> <tbody> <tr> <td>anz number</td> <td><code>count(distinct values(teamColumn))</code></td> </tr> <tr> <td>name string list</td> <td><code>distinct values(teamColumn)</code></td> </tr> </tbody> </table> </div>	anz number	<code>count(distinct values(teamColumn))</code>	name string list	<code>distinct values(teamColumn)</code>																																																																																											
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These four decisions serve as supporting decisions for the decision 'TeamPoints':

