Solutions for Sheet 7

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Pattern Matching and Machine Learning
for Audio Signal Processing

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Task 7.1

(a) & b) $C(\mathcal{D}) = \{(1,1),(1,3),(2,4),(3,1),(3,5),(4,2),(5,3),$
$(5,5),(6,1),(6,2),(6,5),(7,4),(8,2),(9,1),(9,4)\}$
$C(\mathcal{Q}) = \{(1,3),(2,1),(2,5),(3,4),(4,2)\}$
For this values we get for the inverted list:

$$L(1) = (1,3,6,9)$$
$$L(2) = (4,6,8)$$
$$L(3) = (1,5)$$
$$L(4) = (2,7,9)$$
$$L(5) = (3,5,6)$$

So the indicator function and the resulting matching functions are:

Query	**L(h) - n**	**indicator functions**								
		-1	0	1	2	3	4	5	6	7
(1,3)	(0,4)	0	1	0	0	0	1	0	0	0
(2,1)	(-1,1,4,7)	1	0	1	0	0	1	0	0	1
(2,5)	(1,3,4)	0	0	1	0	1	1	0	0	0
(3,4)	(-1,4,6)	1	0	0	0	0	1	0	1	0
(4,2)	(0,2,4)	0	1	0	1	0	1	0	0	0
Δ_F		2	2	2	1	1	5	0	1	1

Tabelle 1: indicator function and matching function for $C(\mathcal{Q})$ and $C(\mathcal{D})$