

Fundamentals of Business Intelligence

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Exercise Chapter 7: Process Analysis

Task 1: Process Discovery – alpha Miner

Consider the log in Table 1:

Table 1: Workflow Execution Log

Instance	Trace
Case 1	<A,B,C,E,H>
Case 2	<A,B,D,E,H>
Case 3	<A,B,D,F,I,H>
Case 4	<A,B,D,F,I,H>
Case 5	<A,B,C,G,H>
Case 6	<A,B,C,E,H>

- Apply the alpha Miner to this log („by hand“). Document all steps.
- How would you estimate the quality of the resulting Petri Net?

Task 2: Process Discovery – Heuristic Miner

Consider the log in Table 1:

- Shortly describe the input and output of the Heuristic Miner.
- Apply the Heuristic Miner algorithm to the log. Document all steps.
- How would you estimate the quality of the resulting Heuristic Net? In comparison with the the Petri Net from Task 1 a?

Task 3: Conformance Checking

Consider the traces and their frequencies in Table 2:

Table 2: Traces and frequencies

Instance	Trace
120	<A,B,C,E,H>
120	<A,B,D,E,H>
20	<A,B,D,H>
20	<A,B,C,H>

Determine the conformance of the log (all traces) with the Petri Net in Figure 1 („by hand“).

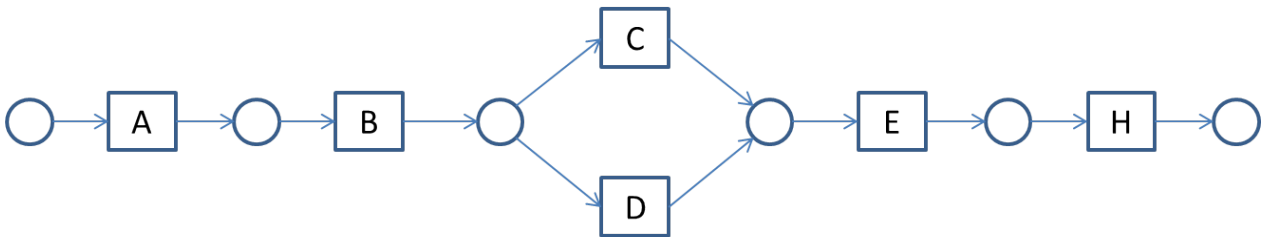


Figure 1: Petri Net