

# Business Intelligence I

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## Exercise 4: Process Mining (9 Points)

### Task 4-1: Process Discovery - $\alpha$ -algorithm (3 points)

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  $\alpha$ -algorithm to this log („by hand“). Document all steps.

### Task 4-2: Process Discovery – Heuristic Miner (3 points)

Consider the log in Table 1:

Apply the Heuristic Miner algorithm to the log. Document all steps.

### Task 4-3: Conformance Checking (3 points)

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“).

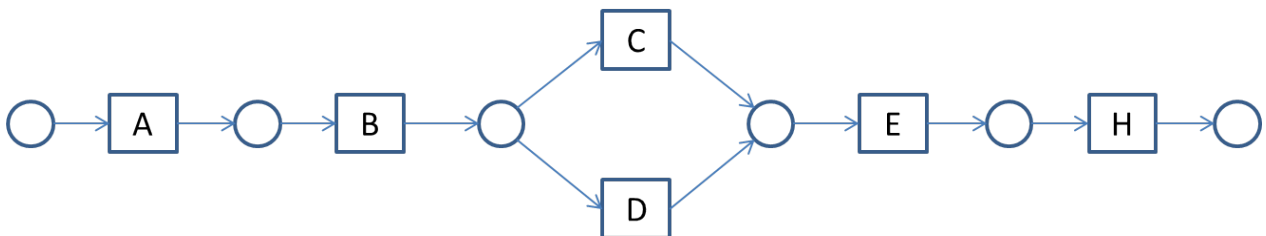


Figure 1: Petri Net