

Management Information Systems (Spring 2012-2013): BPMN to Petri net Mapping and Process Instantiation

Due on Week starting on 27.04.2013

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Sunday: 09:30-11:00 am, 12:34-02:30 pm
Thursday: 08:00-09:30 am*

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BPMN to Petri net Mapping

Problem 1

5 points

Mark the following statements as true or false

1. Sometimes we need to do BPMN-to-BPMN mapping before mapping to Petri nets ()
2. A data object in BPMN is mapped to a set of places in Petri nets. ()
3. The activity instance used in a BPMN to Petri net mapping does not affect the resulting net ()
4. The loop activity in BPMN is mapped directly to Petri nets ()
5. A multiple instance activity is mapped similar to tasks in an exclusive choice block ()

Problem 2

15 points

With respect to the process model shown in Figure 1, answer the following questions:

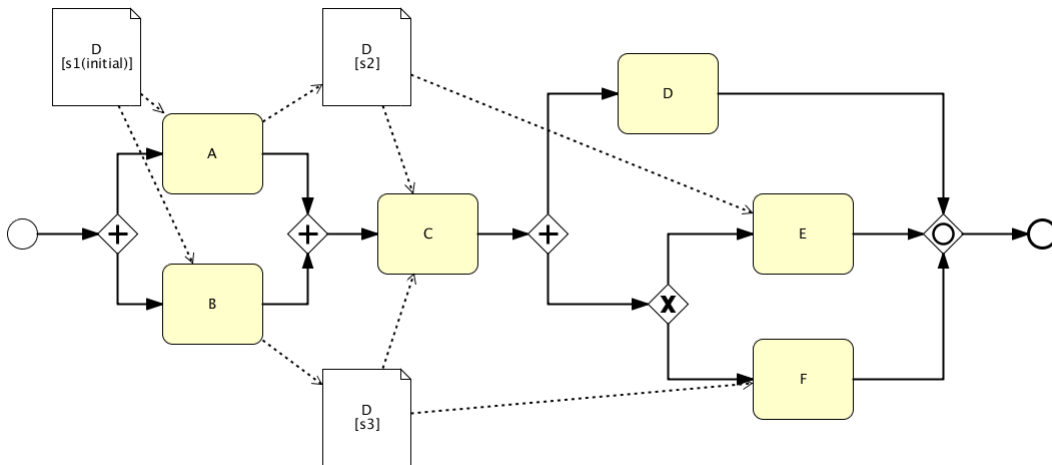


Figure 1: A BPMN model

1. Show the resulting Petri net from the mapping of the BPMN model in Figure 1[10 points].
2. Determine the initial marking of the net resulting in the previous step [5 points].

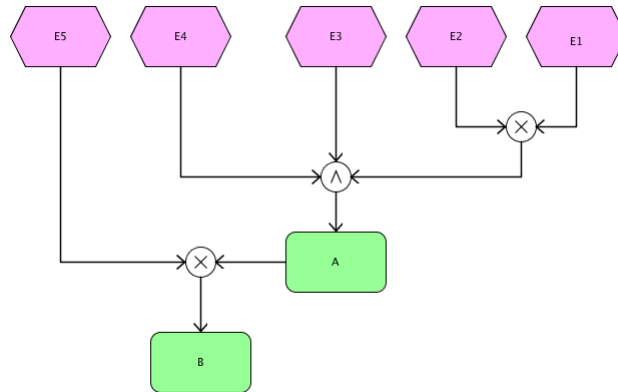


Figure 2: An EPC model

Process Instantiation

Problem 3

Consider that the process model in Figure 2 is deployed to an execution engine.

Consider the following sequence arrival of events.

$t_1 : e_3(1000), t_2 : e_1(1001), t_3 : e_1(1000), t_4 : e_2(1001), t_5 : e_3(1001), t_6 : e_5(1002), t_7 : e_4(1001), t_8 : e_2(1002), t_9 : e_5(1002), t_{10} : (1002)$