MTAT.03.231 – Business Process Management

Process for handling reviews of articles

Your task is to analyze the following log using process mining techniques:

https://courses.cs.ut.ee/2015/bpm/spring/uploads/Main/ReviewingProcessLogs.zip

The event log corresponds to a process for handling reviews of articles (papers) submitted for publication to a journal. The event log consists of 100 cases (papers). Each paper is sent to three reviewers. The reviewers are invited to write a report. However, reviewers often do not respond. As a result, it is not always possible to make a decision after a first round of reviewing. If there are not enough reports, additional reviewers are invited. This process is repeated until a final decision can be made (accept or reject).

Starting from this log, answer the following questions using ProM 5.2:

a) Using three different discovery algorithms derive three Petri nets from L1 and using conformance checking, determine which is the best one (the Petri net that has the highest fitness with respect to L1). We call this Petri net P. Design a BPMN model from P. Include in the model the routing probabilities associated to each decision point. **[2 points]**

b) Find the data condition that ensures with 100% probability that an additional reviewer is invited after task "decide" has completed. **[1 points]**

c) What are the bottlenecks in the process execution? **[0.5 points]**

d) What is the average waiting time needed to start the acceptance decision task after that the reviews have been collected? **[0.5 points]**

e) Which reviewer is involved in the largest number of paper rejections? (Hint: use the LTL Checker recursively. First isolate cases including a rejection and then, only on those cases, count the number of instances in which each reviewer is involved) **[1 point]**

For this task, submit the three Petri nets, the BPMN model and textual answers to questions (a) to (e). In the textual answer to question (a), you should indicate which process mining algorithms you used to generate the Petri nets, and which algorithm produced the "best" result.

You can submit a single Word, ODT or PDF file for his task, or if needed, you can submit the Petri nets and BPMN diagram as separate files (everything grouped into a zip file). A single pdf file is preferred.