**IFN650** Business Process Analytics

Assignment 1

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| Key Information  |  |  | | --- | --- | | Type | Individual Assignment | | Period | 2023/SEM-1 | | Due Date | **Wednesday 19 April 2023** | |  | Deliverables Required  |  |  | | --- | --- | |  |  | | Written Report | 40% | |  |  | |

## Background/Overview

You are required to model and analyse an organisational business process from the **Finance** **domain**. If you wish to use your own organisation's process instead, please first get the approval from IFN650 teaching team.

## Task Requirements

### Process Modelling

Create a **WF-Net** to represent your process using the WoPeD tool. Your model and analysis should be presented from the **organisational** perspective (i.e., from the finance company and not any single participant or customer). The process does not need to be overly complex but realistic and capture key activities and resources.

* Briefly describe your process, capturing the process flow and the resources/roles involved.
* As our focus is on performing design-time analysis, the process model must use all available constructs (i.e., XOR, AND, loops), include **unstructured splits and joins**, and as a general rule, contain **at least 20 tasks** involving at least **five resource roles**.

### Process Verification

Using WoPeD, ensure that your model is correct (sound). Demonstrate your knowledge of the correctness properties by making incorrect/unsound models violating each of the three soundness criteria and show how these errors can be detected using the verification techniques.

* Your submission should only include a verified/sound process model as pnml file.
* Evidence of your testing/verification should be included as part of your written report. The screenshots of unsound models violating each of the three criteria should be included.

### Capacity Planning

Based on the resource perspective specified in the process description, propose **two realistic** capacity planning scenarios (e.g., show the low vs high caseload). Complete the capacity planning analysis using the WoPeD tool and present a discussion of the results and insights in your report.

### Quantitative Simulation

Propose two **realistic** business scenarios which your organisation experiences. To help your organisation plan for the potential impacts of each potential event/change, complete a quantitative simulation using WoPeD. Your report should present results with a discussion/analysis of what these may suggest to improve the performance of your business process.

* If your model is *too* complex (e.g., includes some unstructured loops), WoPeD may show an error and/or be unable to complete the simulation. **You will need to simplify the process model** to complete the different simulations.
* Your report should explain the simplifications made and briefly consider the impact of each.

## Deliverables

### Written Report

You are required to submit a written report to present your processes and analysis. Your report should be a **maximum of 15 pages** of content. We have provided an Example Report Structure at the end of this document.

Your report must be submitted online, using the link on Canvas **before 11:59pm on 19 April 2023**.

* You must submit a single .zip file (named "**IFN650\_Assigment-1\_StudentIDX.zip**"), containing:
* Written report (named "StudentID.pdf" format)
* Process Model (.pnml format)

### Late Assessment Policy

## Assignments submitted without an approved extension will not be marked and will receive a grade of 1 or 0%. You can [apply for an automatically approved 48-hour extension](https://qut.to/late-assessment), or if special circumstances prevent you from meeting the assignment due date, you can apply for a longer extension. If you don't have an approved extension you should submit the work you have done by the due date and it will be marked against the assessment criteria.

## Example Report Structure

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| --- | --- |
| Section | Page Limit |
| Cover Page and Table of Contents | Excluded |
| Process  Model Description  WF-net  Verification (including unsound models)  Capacity Planning  Simulation | Included |
| Conclusion  Summary of key insights/findings/recommendations  Challenges encountered | Included |
| Appendices  Large scale models | Excluded |