

Modeling BPMN 2.0

Level 2



Lubomír Hruban

l.hruban@gmail.com



Seminar Overview

- Introduce BPMN Level 2 modeling and its palette
- Extending L1 process to L2
 - PV207/L2.bpmn
- Remarks on modeling
- Top 10 L2 Mistakes (*Spring 2014*)
- L2 Assignment (*deadline 7.4. 17h*)
- Summary

Level 2 Modeling

- Also known as **analytical** modeling
- Created by **process specialists**
- Still concerned with **non-executable** processes
- Relies on information **visible** in the diagrams
- Adds **events**, additional **gateways**, **subprocess** nesting
- Often used for **exception handling**
- From activity order (L1) to **precise execution timing** (L2)

L2 Palette

Types	Start			Intermediate			End
	Top-Level	Event Sub-Process Interrupting	Event Sub-Process Non-Interrupting	Catching	Boundary Interrupting	Boundary Non-Interrupting	
None							
Message							
Timer							
Error							
Escalation							
Cancel							
Compensation							
Conditional							
Link							
Signal							
Terminate							
Multiple							
Parallel Multiple							

- Intermediate events
- More specific types of tasks
 - User
 - Service
 - Abstract
 - Send
 - Receive
 - Manual
 - Script
 - Business rule
- Event and complex gateway
- Iterations in multiple instances

Extending L1

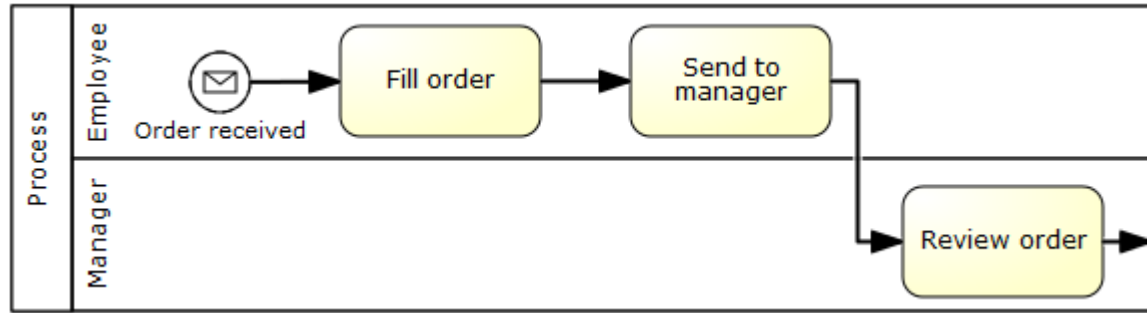
- Import L2 from study material into Signavio

Message Events

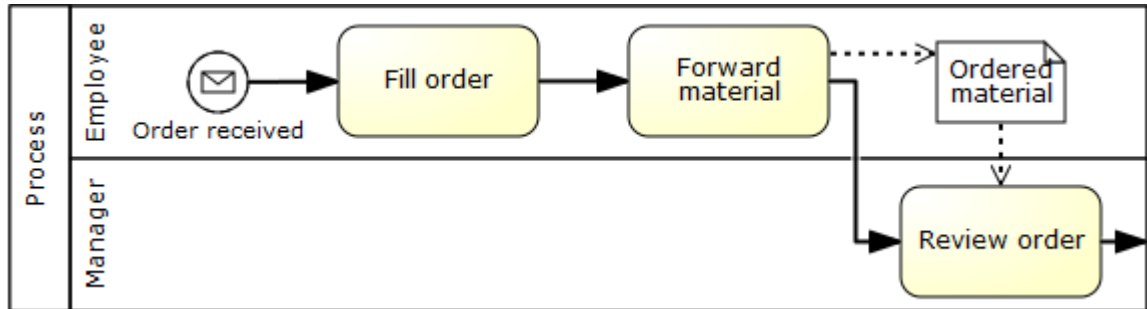
- Message is the content of communication between two different participants (not in the same process)
- Message can take any form
- Message flow is addressed to a particular process or process instance
- Use verbs like send or receive as a keywords

Hidden Message Flow

Avoid this:



When handling is non-trivial activity:



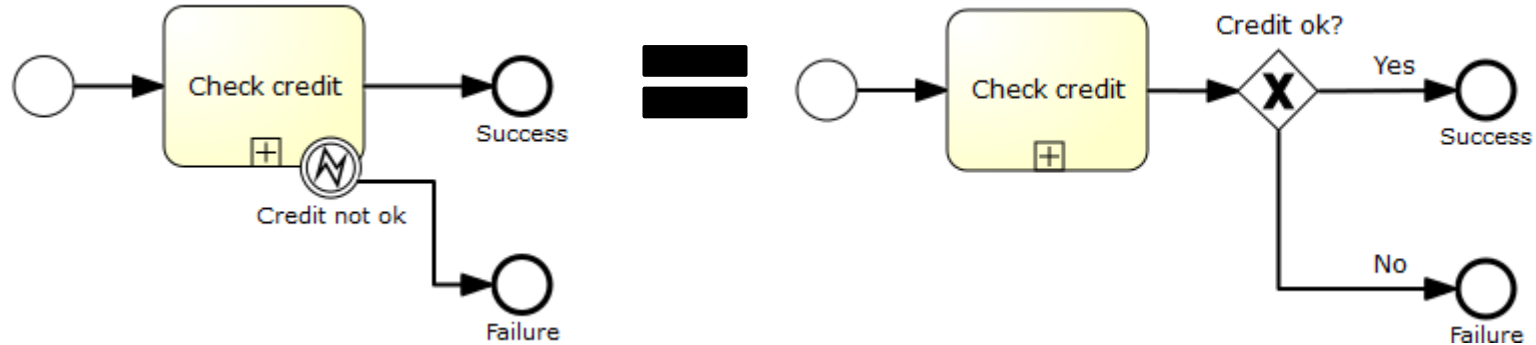
Signal Events

- Signal is broadcast and it is loosely coupled
- Can be used within pool, between processes and process instances
- In diagram there is no message flow between signals (only naming emphasizes relationship)
- Signal start event means that process is subscribed to another process or processes

Error Events

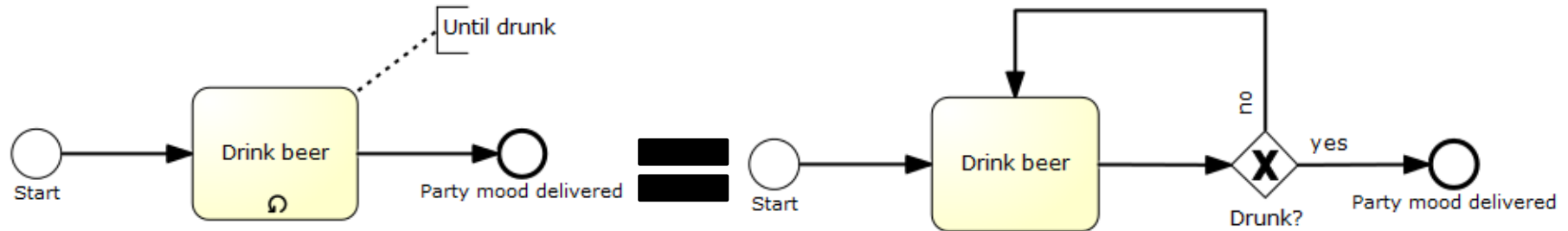
- Only as Error end event or interrupting Error boundary event
- Can be usually transform with usage of XOR gateway

gateway:

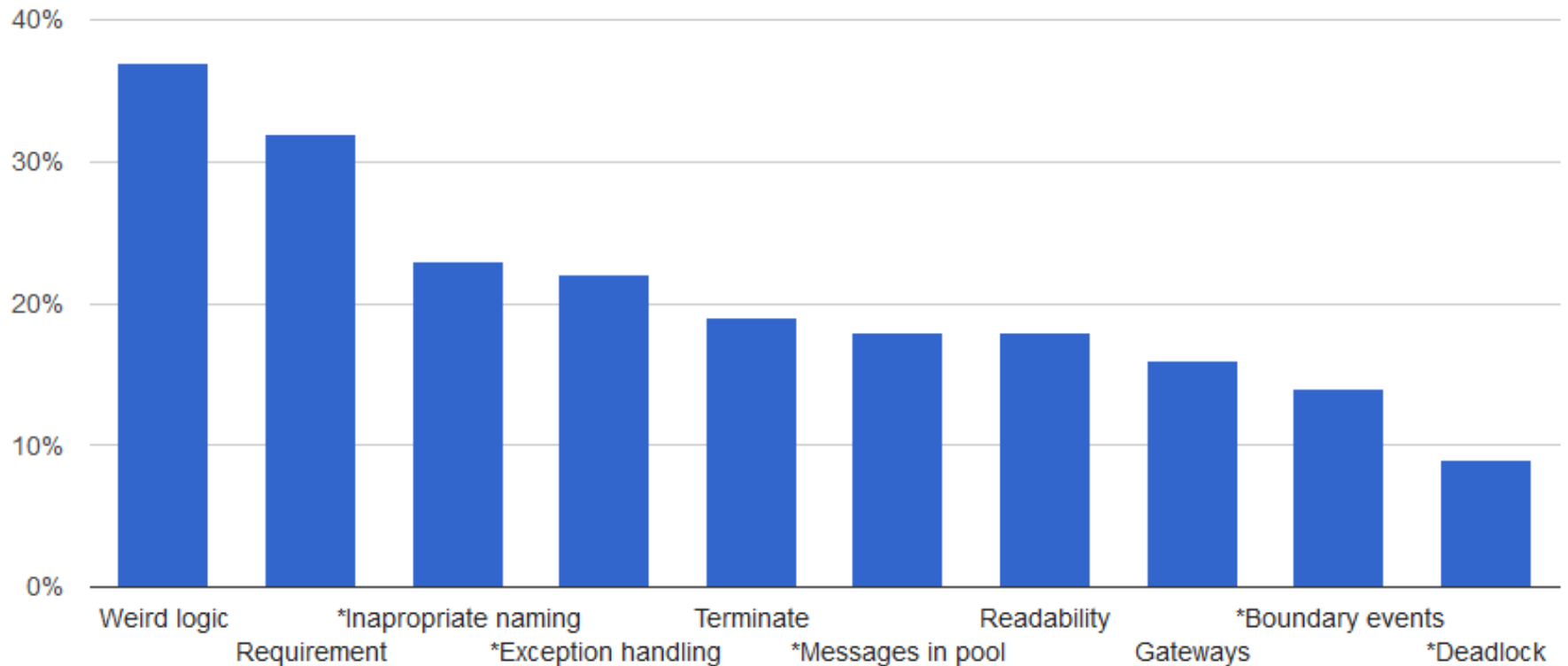


**It is totally equal only if we can change internally Check credit*

Loop Transformation

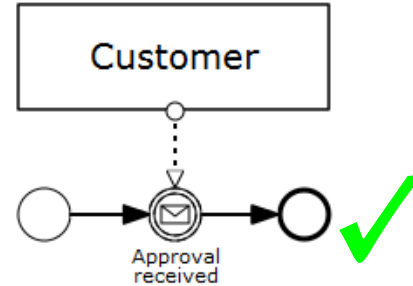
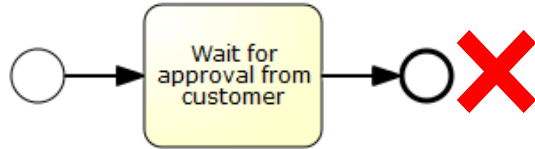


Top 10 Mistakes 2014

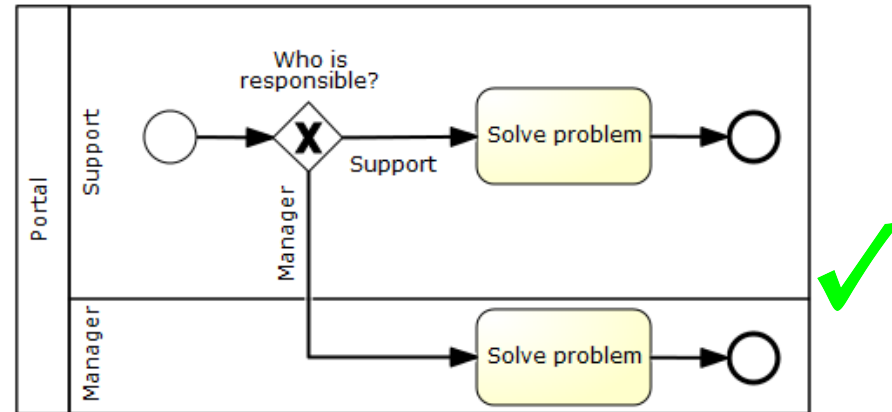
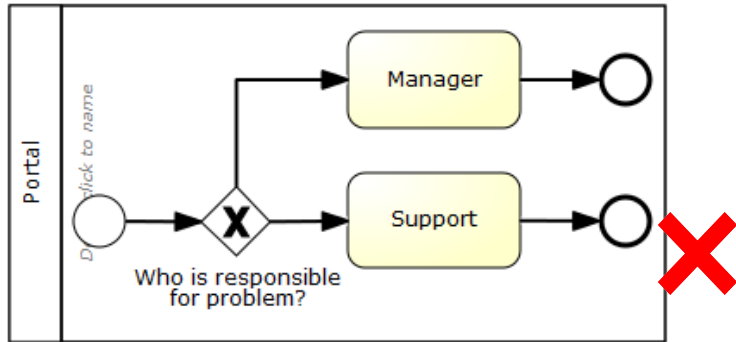


Inappropriate Naming

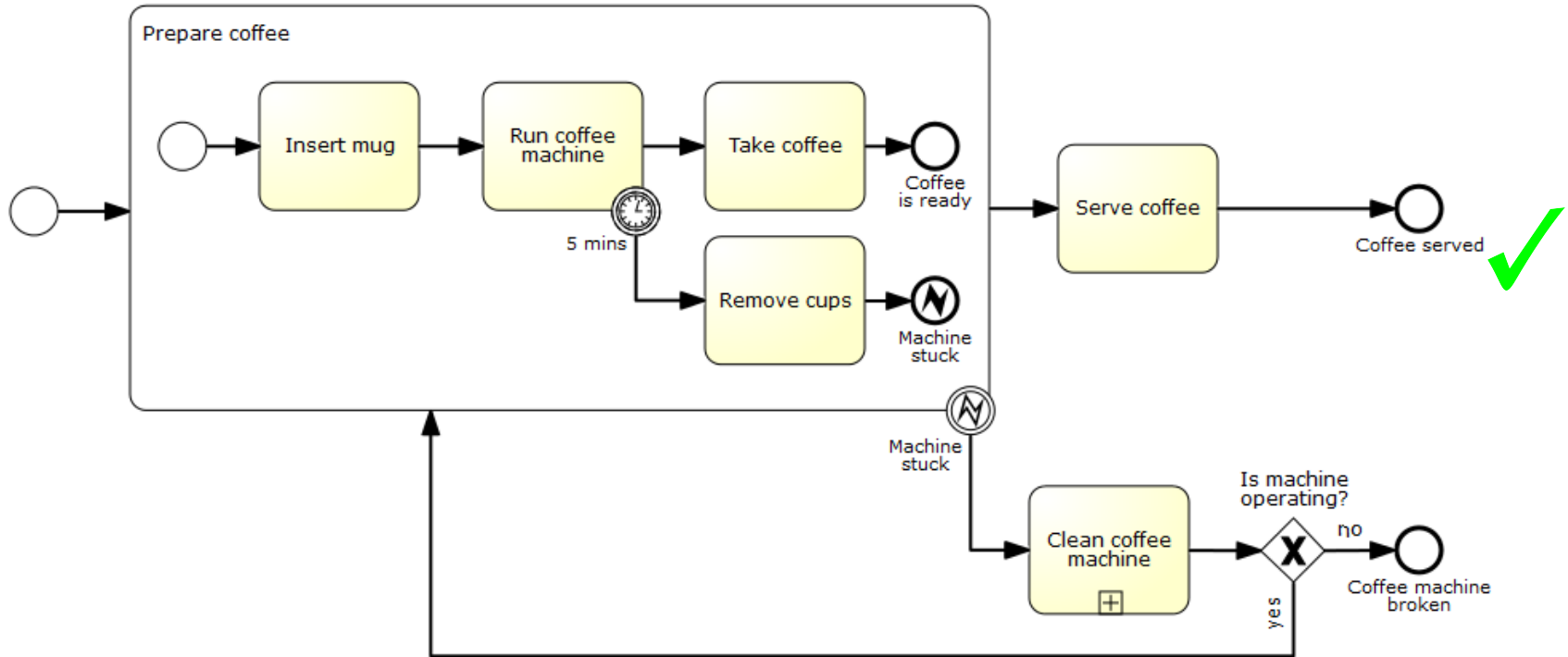
Here is a task used instead of an event.
Clumsy name of the task signals us that we are using wrong modeling concept.



Lanes should express the role which is responsible for performing task.
Not the name of task itself.

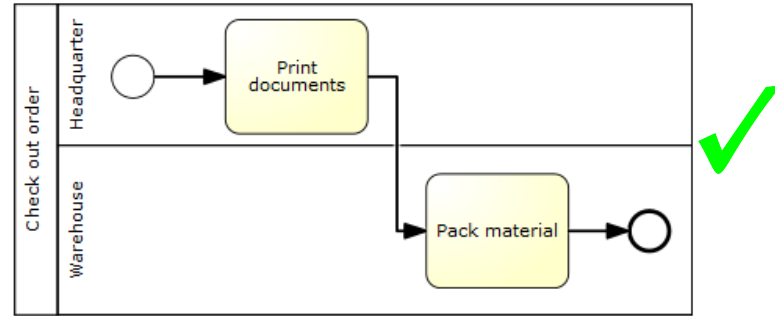
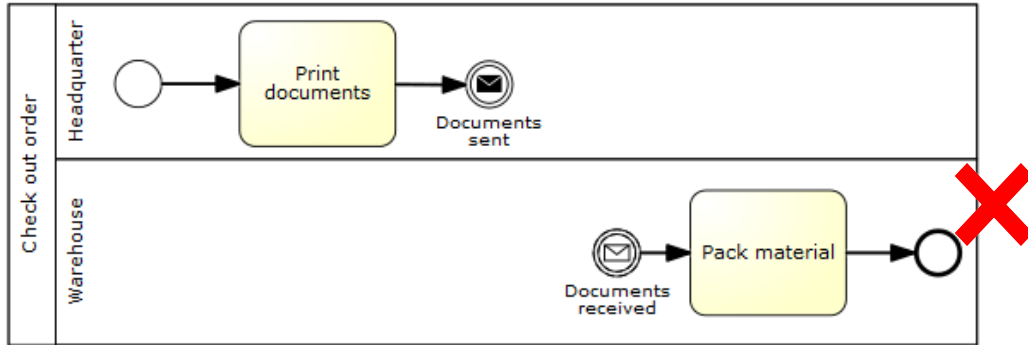
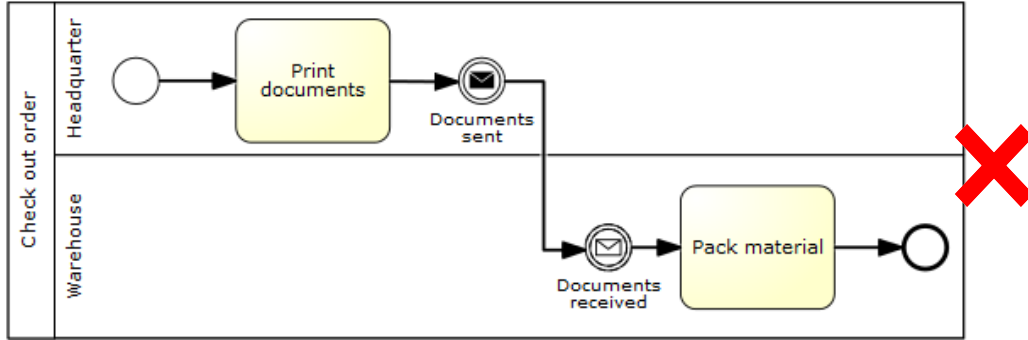


Exception Handling



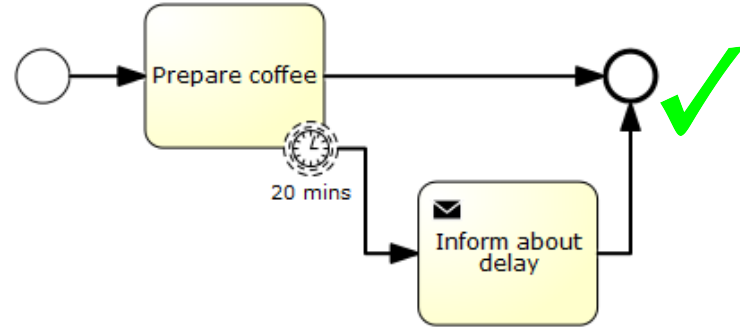
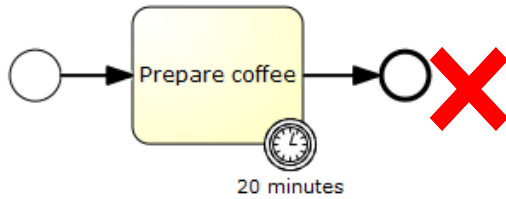
*The process should handle exception appropriately
(try to resolve exception, or terminate properly other tokens and inform other processes if necessary).*

Messages in Pool

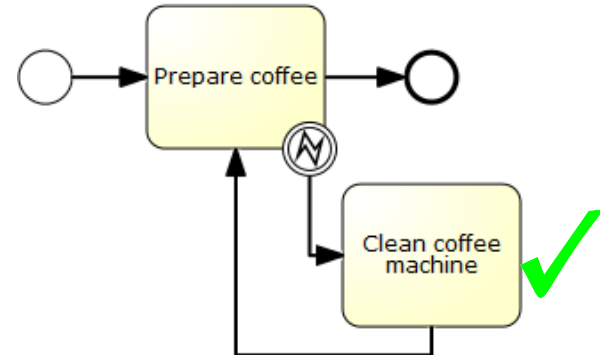
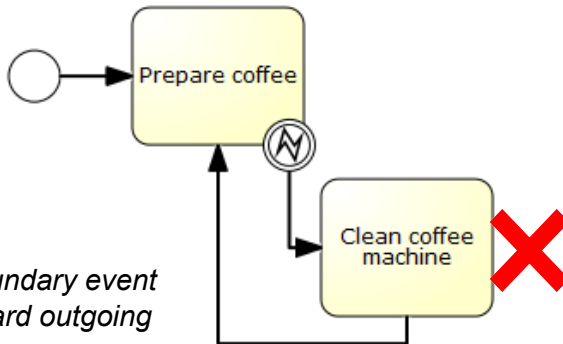


Variants of hidden message flow.

Boundary Events

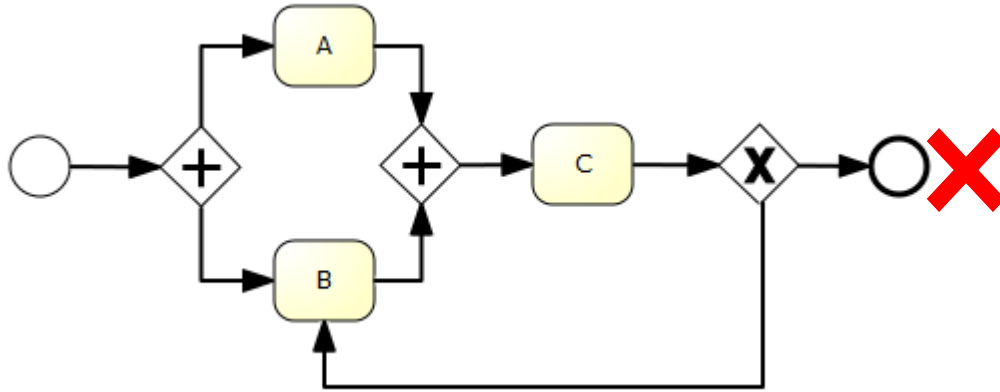


Timer does not say how much time it takes to finish task. It just says what should be done when timebox expires. Therefore, there has to be outgoing sequence flow.



Even task with boundary event has to have standard outgoing sequence flow.

Deadlock



If after XOR gateway token flows to B then parallel gateway will wait forever for token from A.

Summary

- Understand purpose and usage of BPMN L2
- Extend process from L1 to L2
- More familiar with the most common L2 elements
- Review common mistakes in L2

L2 Assignment

Create one BPMN L2 model (it is preferred when you extend your L1 process):

8+ activities

4+ gateways, 2 different types

3+ events, 2 different types (beside start a end)

1+ data object

2+ text annotations

2+ pools, 1 as „blackbox“, 2+ roles (swimlanes)

1+ exception and appropriate handling

Submit **printed version** with **UČO** and **number of seminar group** to the box called **PV207** next to entrance to room D1 (**before 7.4. 17h**)

Submit **electronic version** of diagram in Signavio as PNG to IS MUNI to folder "Homework 2" as <surname>_bpmn.png (**before 7.4. 17h**)

Thank you for your attention!

