

ASSALAMU'ALAIKUM

MODELING IN BUSINESS INTELLIGENCE

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- ❖ **Models and Modeling in Business Intelligence**
- ❖ **Logical and Algebraic Structures**
- ❖ **Graph Structures**

Models and Modeling in Business Intelligence

❖ **Model types,**

- Business process models, organizational models, regression models, classification models, graphical models, data models, or software models.

❖ **A model is based on a representation function of a target system, in our case, a business process.**

- Models of phenomena:
 - Phenomena, defined as features of a certain business process, interesting from an analysis point of view, are represented in such a way that within the representation, questions about reality can be formulated and analyzed.

- Models of data:
 - Data of process instances are represented in such a way that representation allows the **discovery of interesting facts** about the business process that has generated the instances.
 - Models of theories:
 - Resembling the definition of a model in **mathematical logic**, this approach first defines a **formal structure**, and the model is understood as interpretation of this formal structure.
- ❖ **BI uses frequently a modeling approach characterized by the term models of data.**

❖ Logical Structures

- Language

❖ Modeling Using Logical Structures

- Ontologies
- Frames

❖ Model Structure

❖ Modeling with Graph Structures

- Business Process Model and Notation (BPMN)
- Petri nets for models in the production perspective.

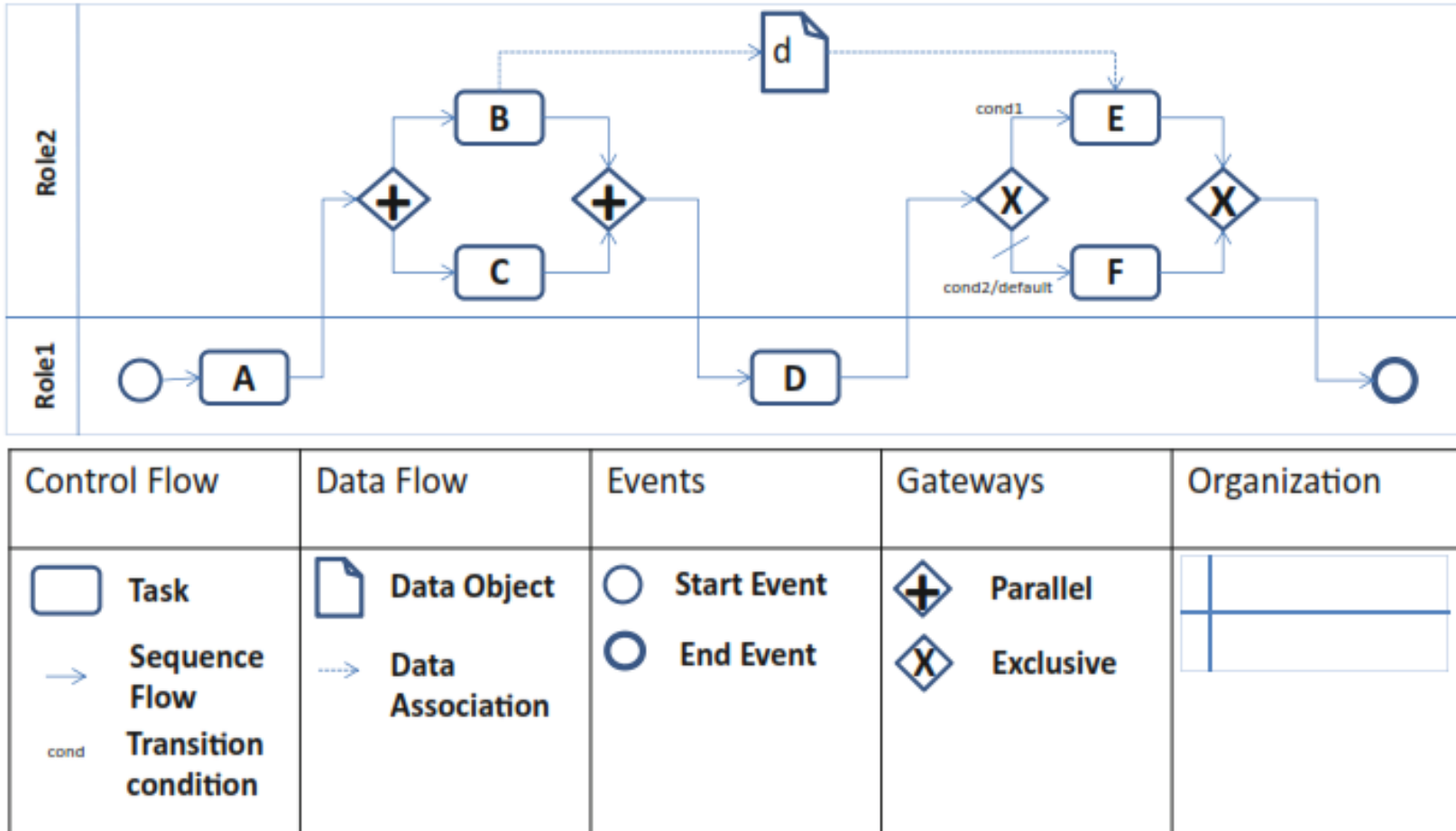
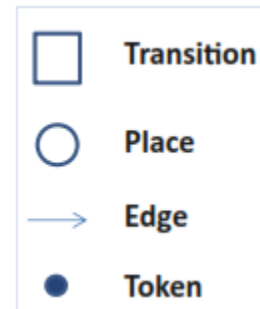
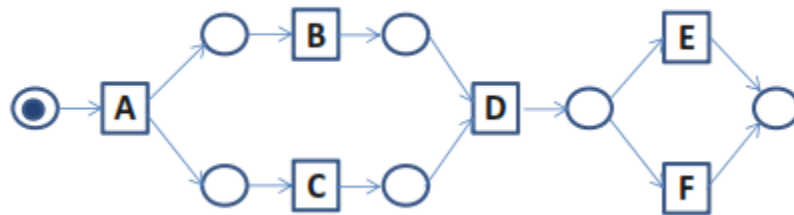


Fig. 1. Example process model in BPMN notation

Process Model Represented as Petri Net:



Firing of Transitions (Examples):

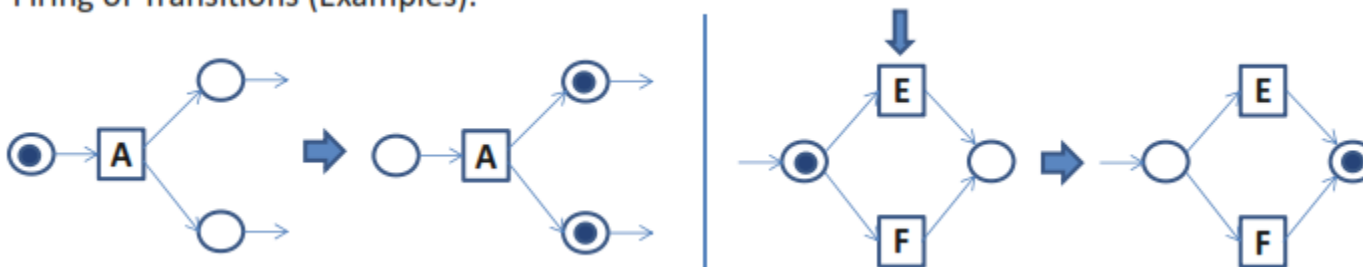


Fig. 2. Example process model in Petri net notation



❖ **Thank you**