BPMN LEVEL 1: _DESCRIPTIVE

COURSE MATERIALS BPMN

Bizagi BPMN modeler (download and install)

http://www.bizagi.com/index.php/en/products/bizagi-process-modeler

BPMN basic modeling (see #OnderwijsOnline)

Bizagi Modeler demo

https://www.youtube.com/watch?v=GpXYgNVcdMU&list=PL-6mNeLaDVHC6Vw6UTQbfMieAJ_O6LAWs

Training kit BPMN (see #OnderwijsOnline)

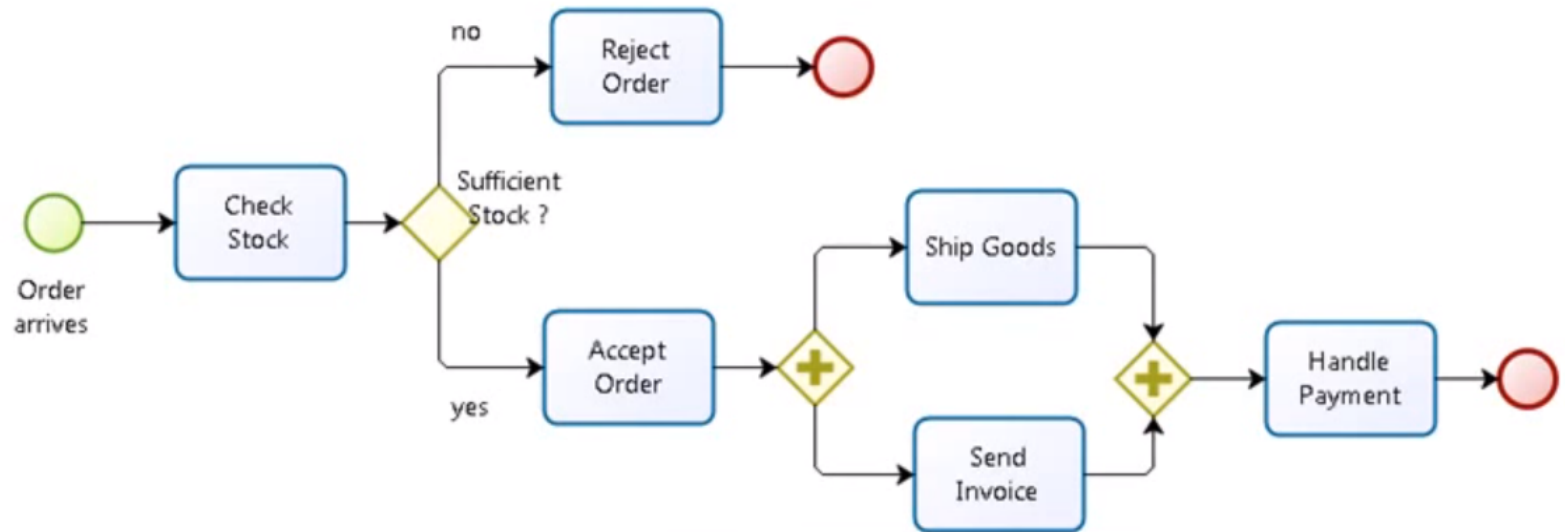Poster BPMN 2.0 (see #OnderwijsOnline)
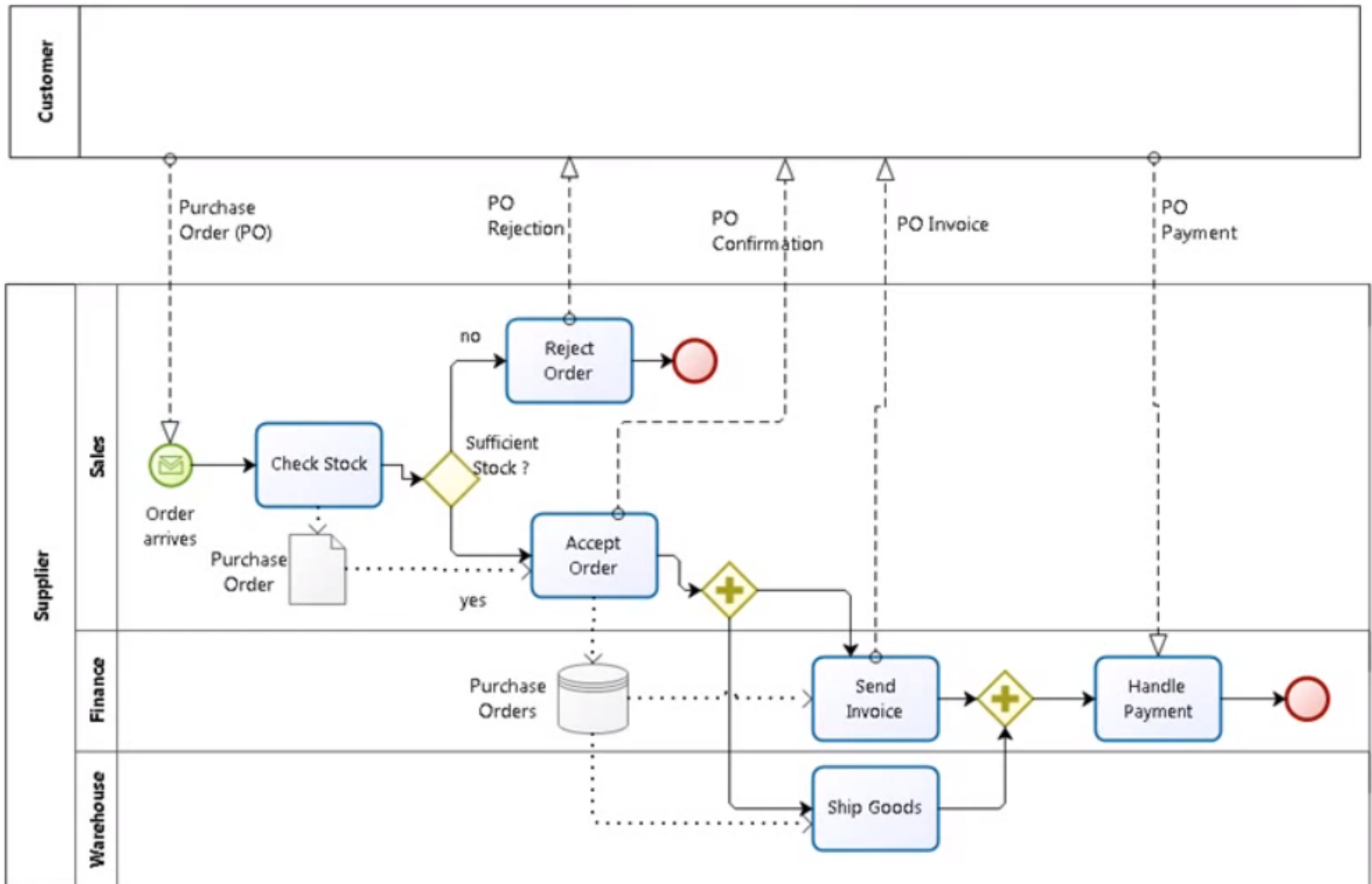
WHY PROCESS MODELING?

An Information system supports business processes. For a data modeler it is important to understand the context.

The essential information flows can be understood from the process model.

Data objects, data stores and message flows in the BPM serve as input for creating the conceptual data model.
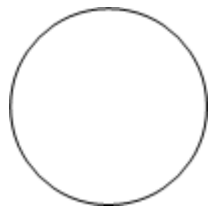
Sales Process

Order arrives → Check Stock → Sufficient Stock ?
- no → Reject Order → (end)
- yes → Accept Order → (+) → Ship Goods / Send Invoice → (+) → Handle Payment → (end)

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Customer

Supplier

Sales

- Purchase Order (PO)
- PO Rejection
- PO Confirmation
- PO Invoice
- PO Payment

Order arrives → Check Stock → Sufficient Stock ?
- no → Reject Order → (end)
- yes → Accept Order → ⊕

Purchase Order

Finance

Purchase Orders → Send Invoice → ⊕ → Handle Payment → (end)

Warehouse

Ship Goods

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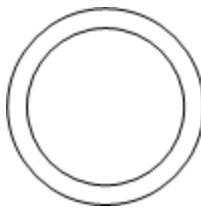# BUSINESS PROCESS DIAGRAM (BPD)

Consists of
- Flow Objects
- Connecting Objects (Connectors)
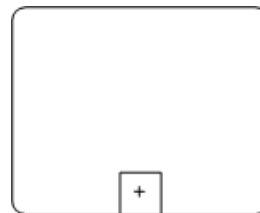- Swim lanes
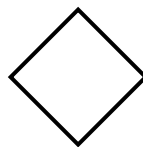- Artifacts

FLOW OBJECTS

start intermediate end **event**
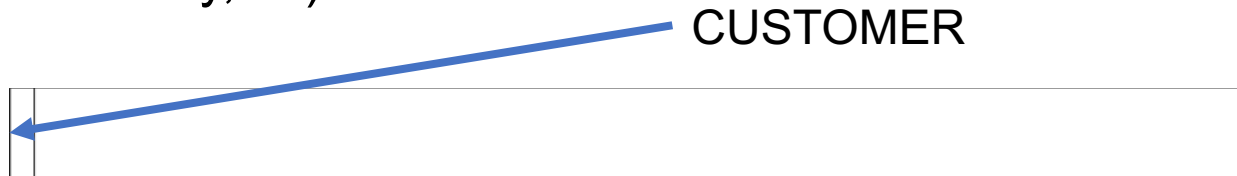
activity

gateway

CONNECTORS

Sequence flow

——————————————————▶

Message flow

- - - - - - - - - - - - - - - ▶

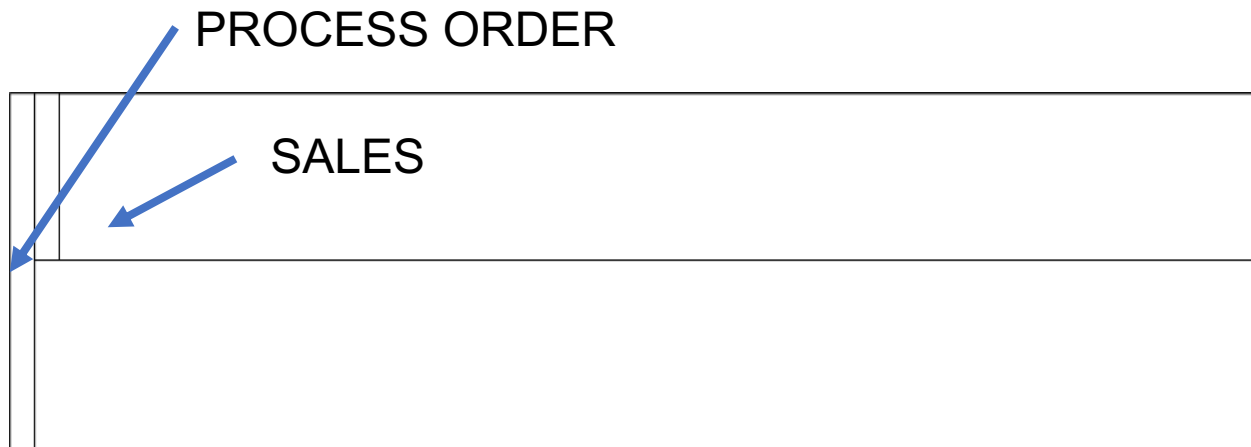Association

○- - - - - - - - - - - - - ▷

POOLS AND SWIM LANES

Pool: 1 for process, 1 for each external party (customer, tax authority, …)

CUSTOMER

Swim Lanes: 1 for each 'actor' (function, department)

PROCESS ORDER

SALES

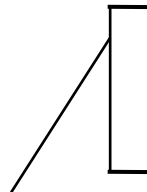# ARTIFACTS

connected using association

- **Data objects**

- **Group**

- **Annotation**

BPMN POSTER

BPMN 2.0 poster

(See the BPMN poster on #OnderwijsOnline)

BPMN BASIC MODELING

Watch the following lessons:

- BPMN basic modeling: What is BPMN?
- BPMN basic modeling: Basic Symbols
- BPMN basic modeling: Gateways
- BPMN basic modeling: Pools & Lanes

https://www.youtube.com/watch?v=pOMKLBywrrA&list=PLUjR77Zdn0LPcCRyG8PTz2lfmjseESoLa
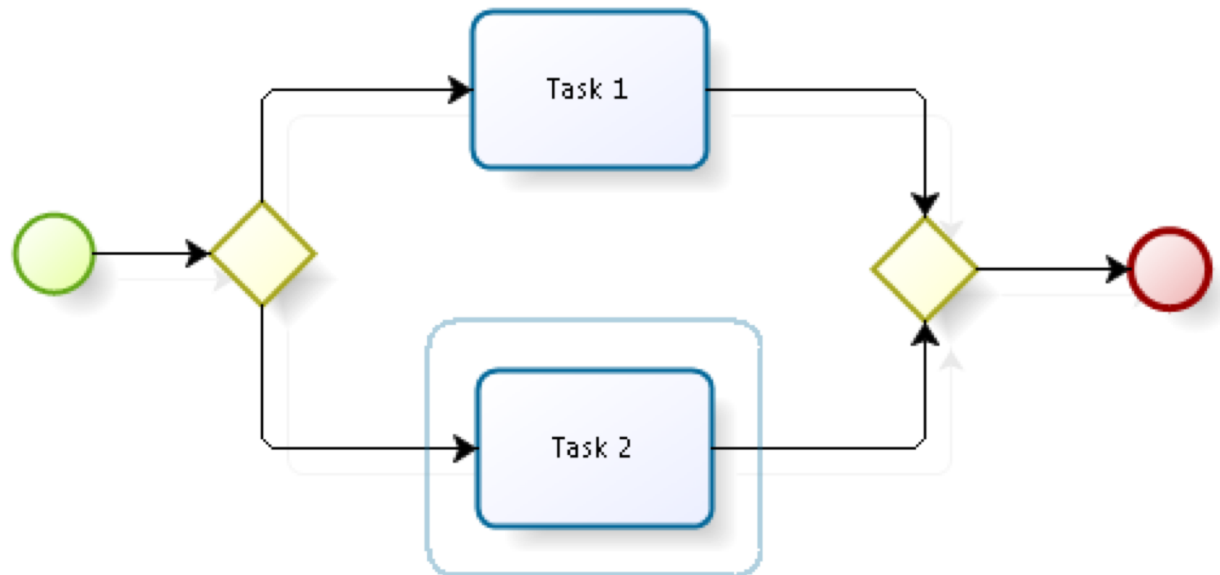
GATEWAYS: EXCLUSIVE

Only one task is carried out:

Depending on conditions specified in the gateway,
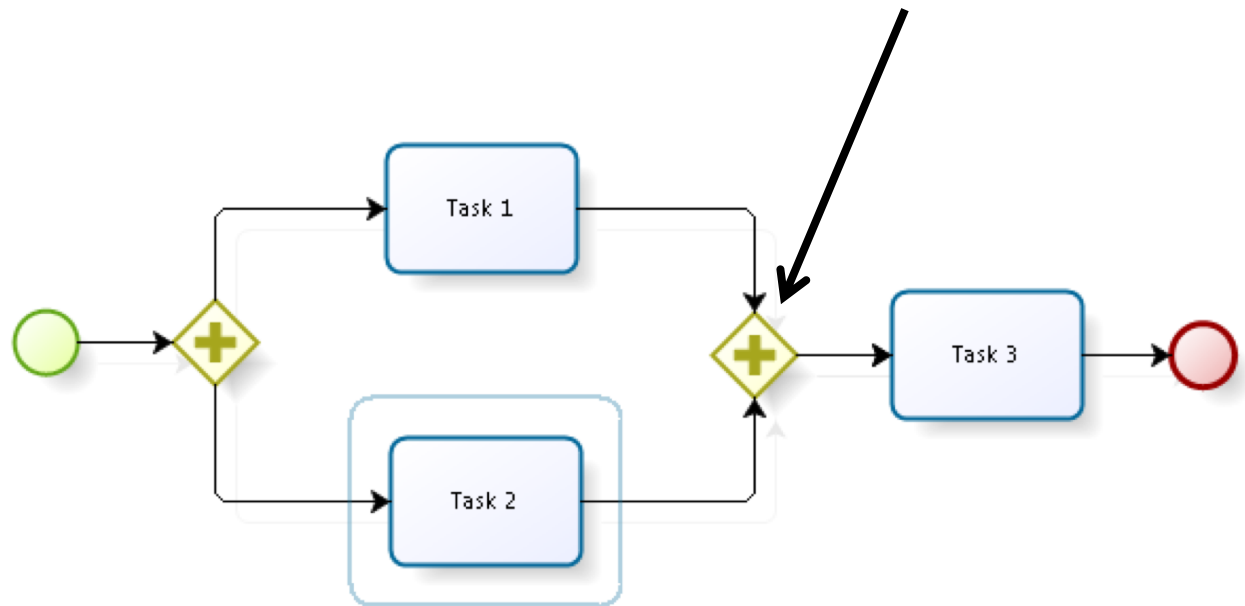
either
Task 1 is done and Task 2 is skipped

or

Task 2 is done and task 1 is skipped.
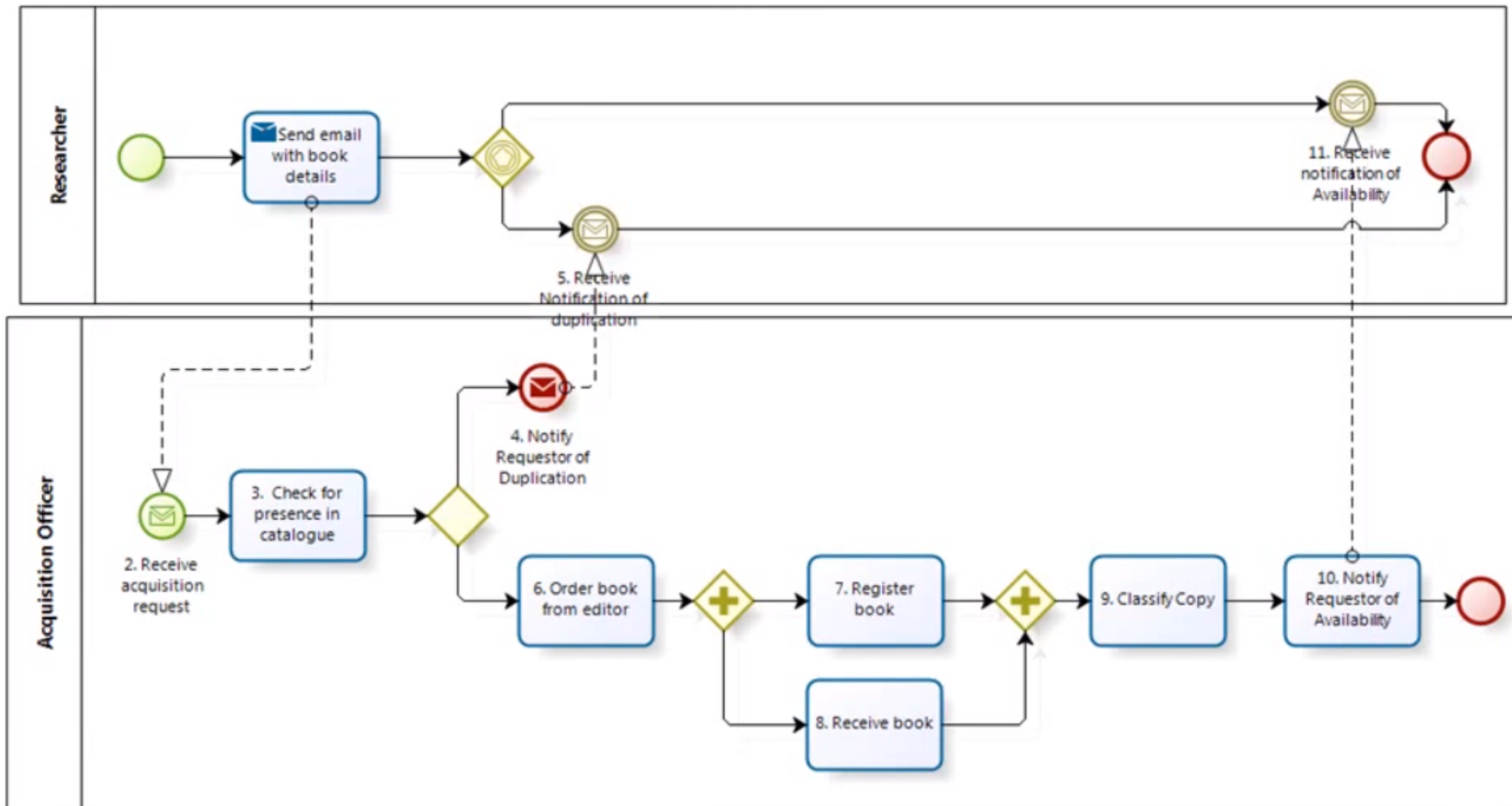
GATEWAYS: PARALLEL

- Gateway does not pass the flow to Task 3 before all incoming flows have arrived.

- Both Task 1 and Task 2 are carried out at the same time.

- Task 3 has to wait until <u>both</u> Task 1 and Task 2 have finished.

CATCH AND THROW EVENTS
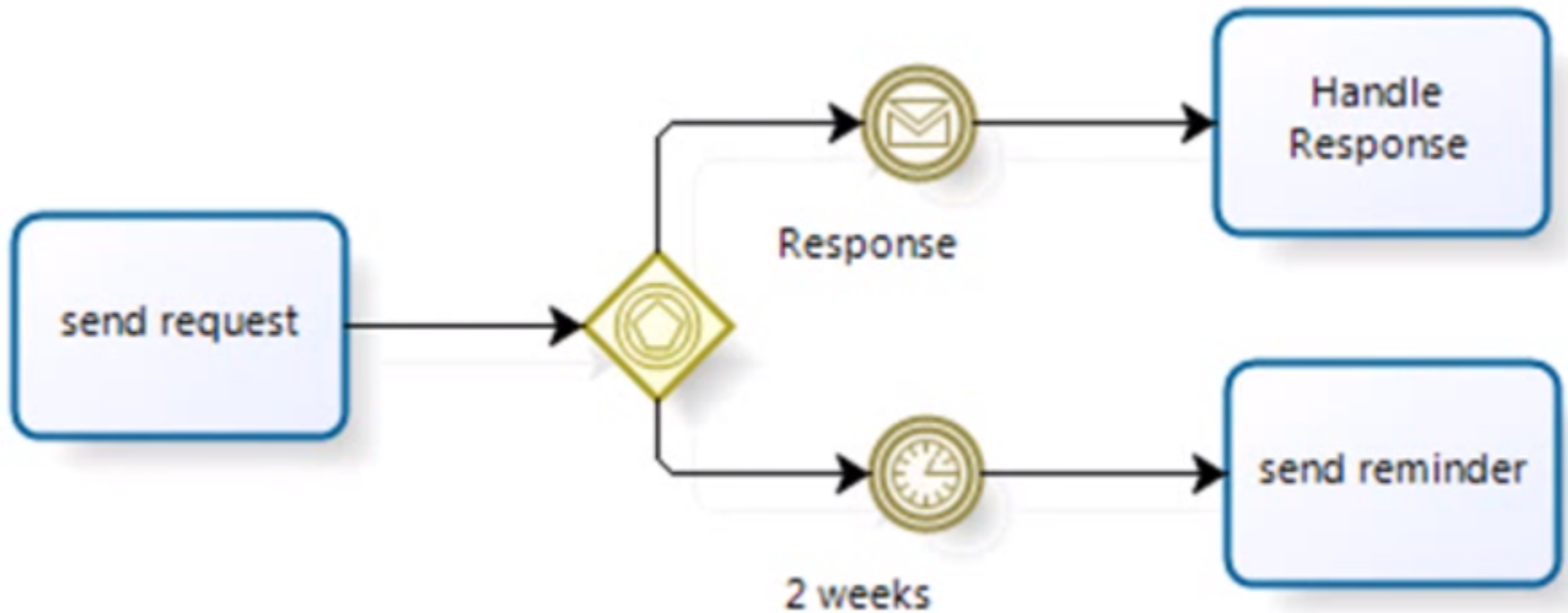

Researcher

Send email with book details

5. Receive Notification of duplication

11. Receive notification of Availability

Acquisition Officer

2. Receive acquisition request

3. Check for presence in catalogue

4. Notify Requestor of Duplication

6. Order book from editor

7. Register book

8. Receive book

9. Classify Copy

10. Notify Requestor of Availability

EVENT BASED GATEWAY

EXERCISES

EXERCISE 1A

Shopping

Two people go shopping together. First they make a shopping list. Then they drive to the mall. At the mall they first buy cosmetics at the drugstore and then they buy groceries at the supermarket. When they are ready they drive home together and unpack their purchases.
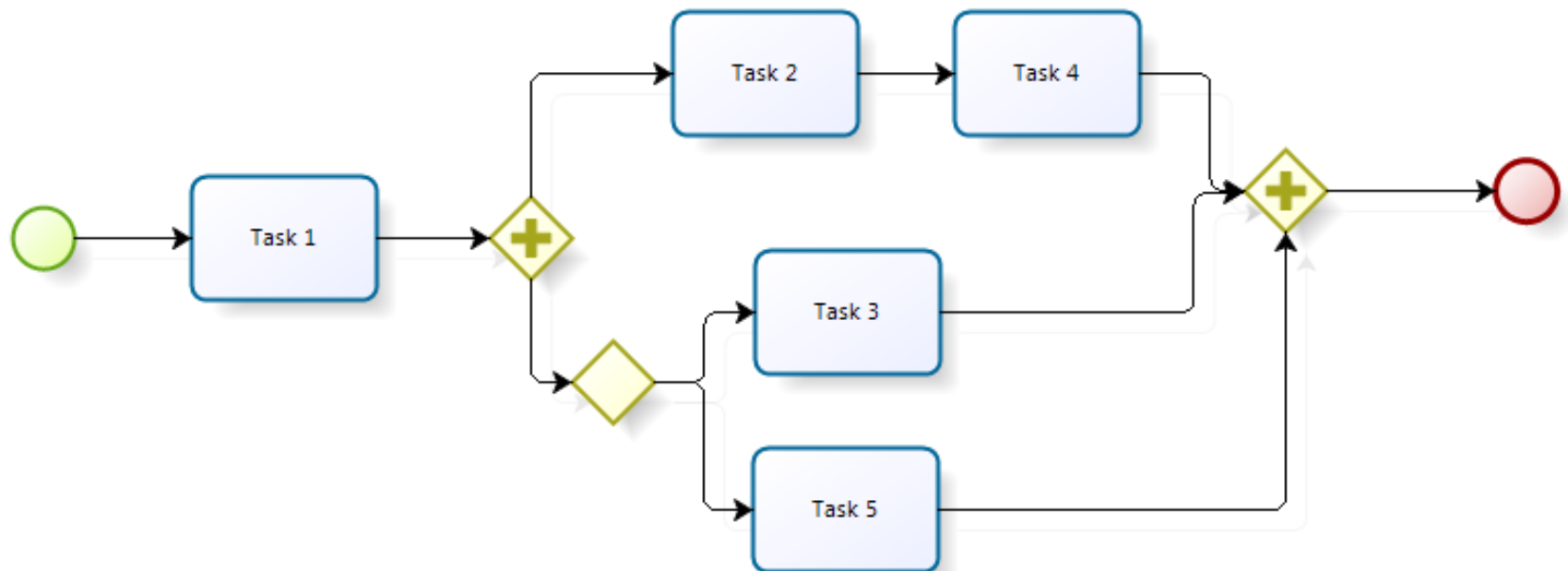
EXERCISE 1B

Shopping

Two people go shopping together. First they make a shopping list. Then they drive to the mall. At the mall one of them buys cosmetics at the drugstore. The other buys groceries at the supermarket. When they are both ready they drive home together. At home they unpack their purchases.
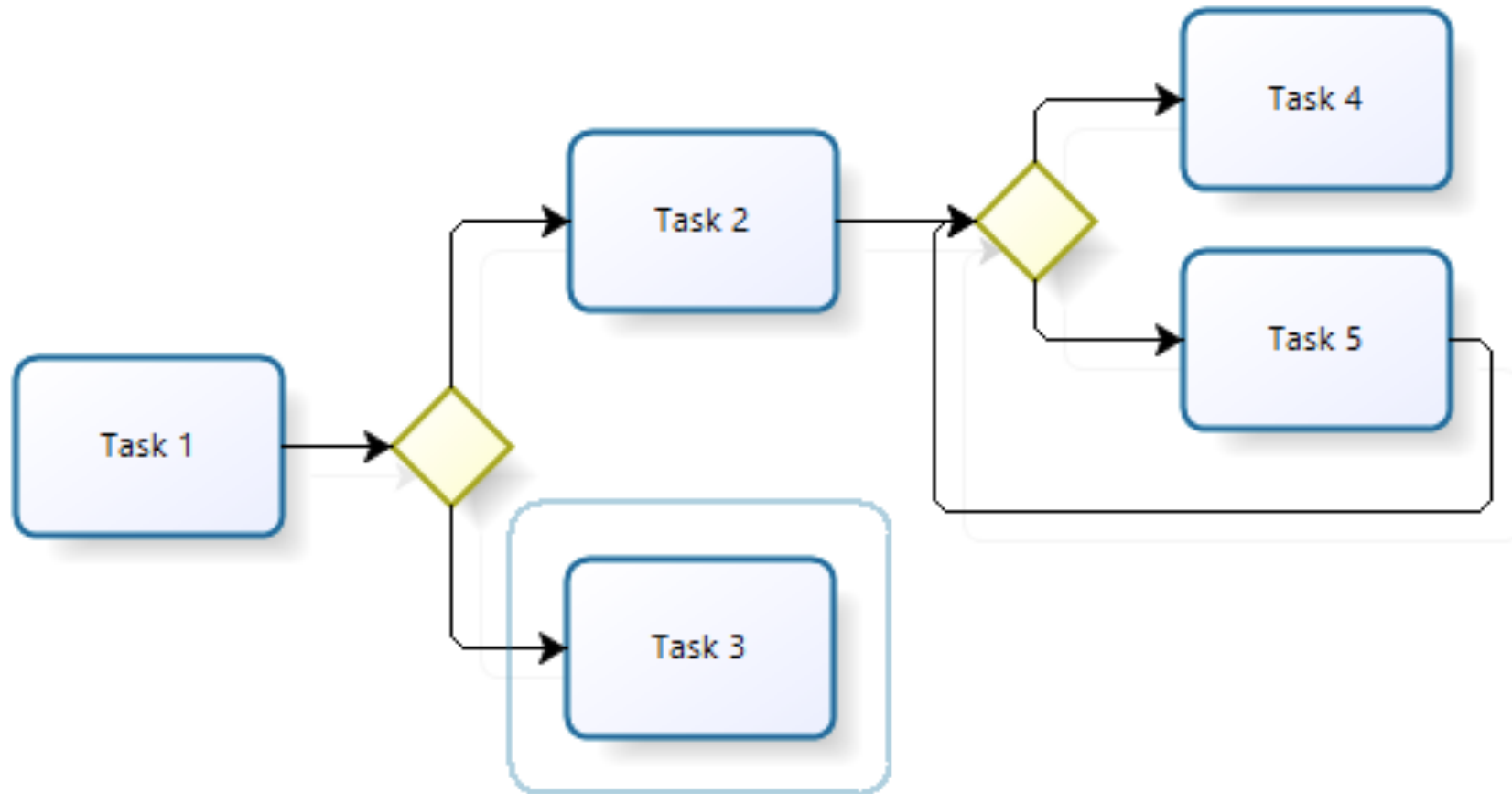
EXERCISE 1C

Shopping

Two people go shopping together. First they make a shopping list. Then they drive to the mall. If there are cosmetics on the shopping list one of them buys cosmetics at the drugstore, otherwise he drinks a cup of coffee at the coffee shop. The other buys groceries at the supermarket. When they are ready they wait for each other and drive home together. At home they unpack their purchases.
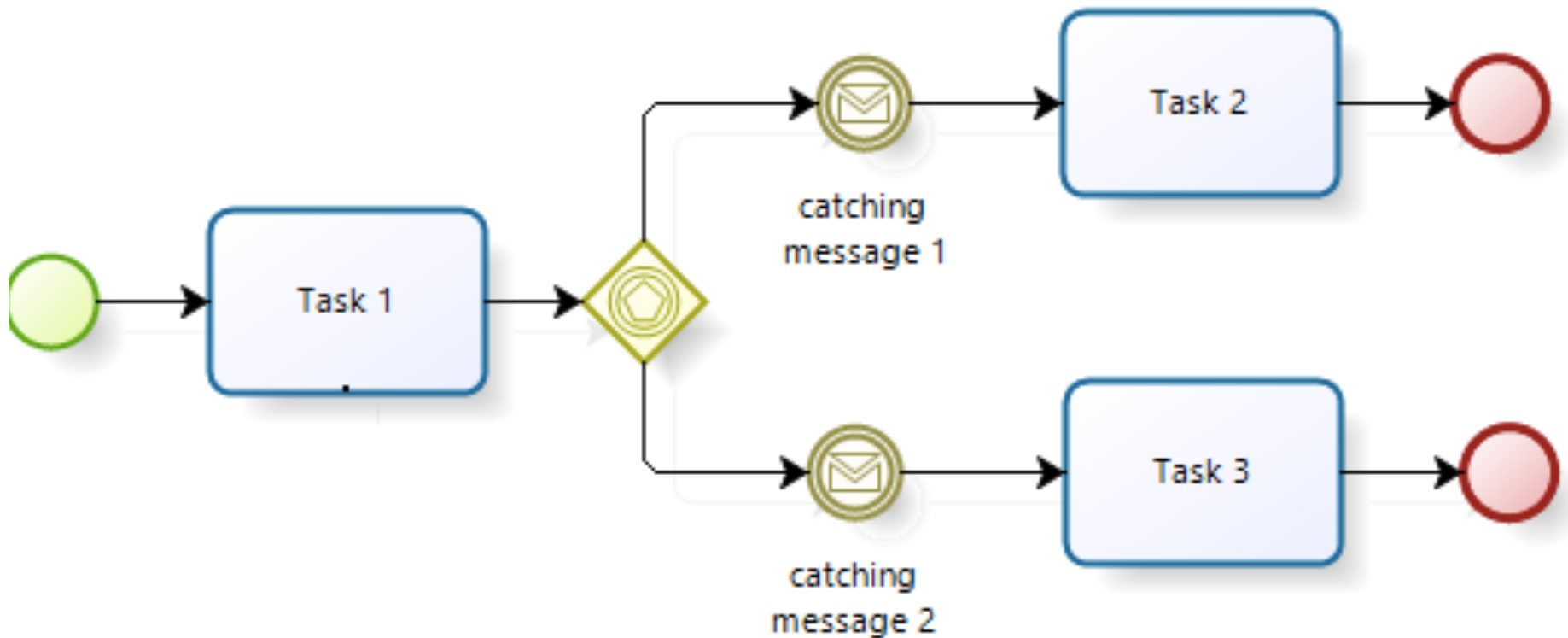
WHAT IS WRONG WITH THIS BPMN MODEL?

WHAT IS WRONG WITH THIS BPMN MODEL?

WHAT'S THE PROBLEM IN THIS MODEL?

EXERCISE 2

Describe the business process shown on slide 5 in natural language.

EXERCISE 3

Students can apply for summer courses offered by the university. When a student submits an application form, the Enrollment Office checks whether the course is fully booked. If the course is not yet fully booked, the student is added to the list of participants and the application form is sent to the Finance Department that will prepare an invoice and send it to the student. If the course is fully booked the the student is put on a waiting list. If this happens the Enrollment Office informs the student.

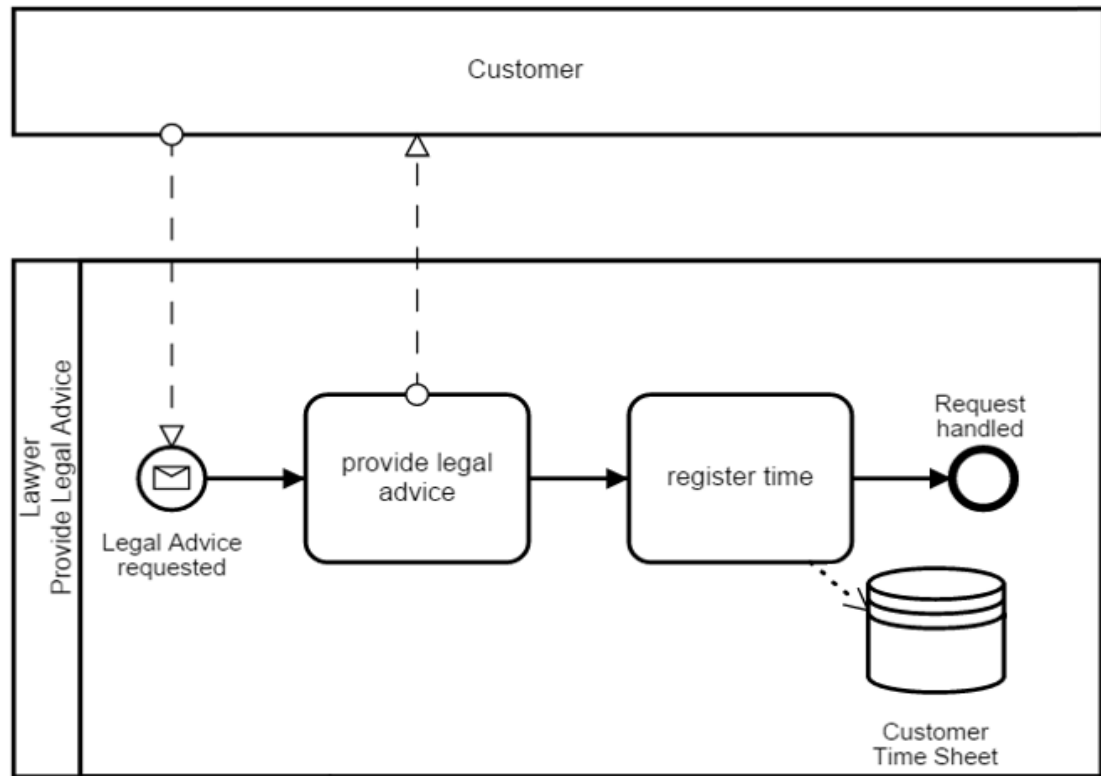Create a BPMN model for this business process.

EXERCISE 3

Student

Enrollment

Enrollment Office

appication
form

Financial Administration

EXERCISE 4

Car Sales

- Study the BPM NEW CAR SALES, with all its child-level expansions (subprocesses).

- Do you understand the model? Are you able to explain what exacty happens during the execution of the process?

EXERCISE 5

Below is shown a BPM for legal advice.

EXERCISE 5

Extend the BPM on the previous slide with the
Accounting process described here.

Accounting

Each first day of the month the Accounting Department
determines the billable hours for each new customer time sheet.
An invoice is created and sent to the customer.

When the money from the customer is received, the invoice is
settled. If the customer does not pay within 14 days, a reminder
is sent. This is repeated each 14 days until the customer has
paid.