BPMN - Business Process Modeling Notation

**Activities**
- Task: A task is a unit of work, the job to be performed.
- Subprocess: A Subprocess is a decomposable activity. It can be collapsed to hide the details.
- Expanded Subprocess: An Expanded Subprocess contains a valid BPMN diagram.

**Data**
- A Data Object represents information flowing through the process, such as business documents, e-mails or letters.
- A Transaction is a set of activities that logically belong together; it might follow a specified transaction protocol.

**Transactions**
- Attached Intermediate Cancel Events indicate reactions to the cancellation of a transaction. Activities inside the transaction are compensated upon cancellation.

**Documentation**
- An arbitrary set of objects can be defined as a Group to show that they logically belong together.

**Gateways**
- Data-based Exclusive Gateway: When splitting, it routes the sequence flow to exactly one of the outgoing branches based on conditions. When merging, it always chooses one incoming branch to complete before triggering the outgoing flow.
- Event-based Exclusive Gateway: Is always followed by catching events or receive tasks. Sequence flow is routed to the subsequent event/task which happens first.
- Parallel Gateway: When used to split the sequence flow, all outgoing branches are activated simultaneously. When merging parallel branches it waits for all incoming branches to complete before triggering the outgoing flow.
- Inclusive Gateway: When splitting, one or more branches are activated based on branching conditions. When merging, it waits for all active incoming branches to complete.
- Complex Gateway: It triggers one or more branches based on complex conditions or verbal descriptions. Use sparingly as the semantics might not be clear.

**Events**
- Untyped events, typically showing where the process starts or ends. They can be start events or end events, and they might follow a specified sequence flow.

**Swimlanes**
- Pools and Lanes represent responsibilities for activities in a process. A pool or a lane can be an organization, a role, or a system. Lanes subdivide pools or other lanes hierarchically.
- Collapsed Pools hide all internals of the contained processes.

**Collapsed Pool**
- Multiple Instances of the same activity are started in parallel or sequentially, e.g., for each line item in an order.
- A Loop Activity is iterated if a loop condition is true. The condition is either tested before or after the activity execution.
- A Task is a unit of work, the job to be performed.

**Intermediates**
- An event or task can be compensated after completion.
- A transaction is compensated if it contains an intermediate compensation event.

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**Expanded Pool**
- An expanded pool contains a valid BPMN diagram.

**Intermediates**
- An event is thrown and the process continues with the next one.

**Data Flow**
- A data object can be read and written during the execution of an activity.

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