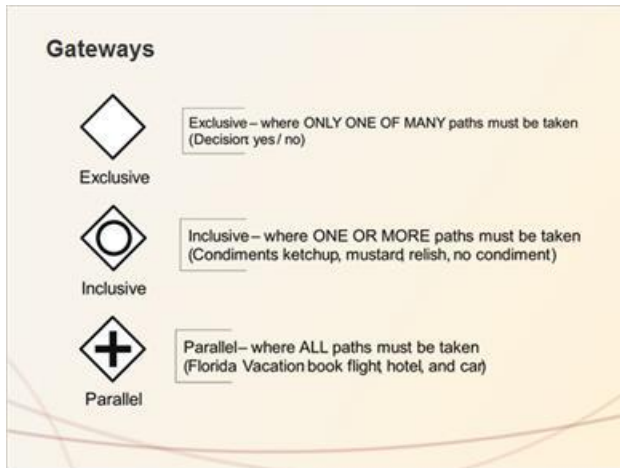


Part 5 - Gateways

1.1 Gateways

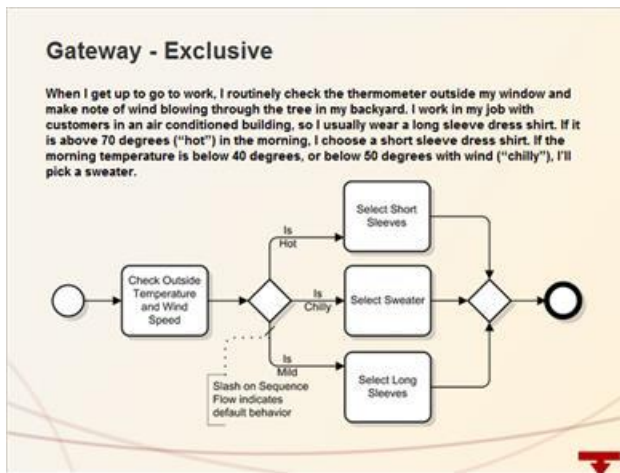


Notes:

Flowcharts often use a diamond shape to indicate a decision point, typically a “yes or no” branch in the flow. The Business Process Modeling and Notation nomenclature supports such decision points through a class of objects called Gateways. All Gateways share a common visual characteristic, namely the diamond shape you see here. Each of the Gateway types is uniquely identified by an embedded symbol, as you can also see in this slide. We will focus on the three most commonly used Gateways: Exclusive, Inclusive, and Parallel.

We use Gateways to model the splitting and merging of pathways in a BPMN diagram. Many process flows include one or more Gateways. The most common is the Exclusive Gateway, which can represent a wide range of decisions - such as a simple “yes / no” decision or a very complex decision involving many alternative pathways. Let’s further explore the Exclusive Gateway.

1.2 Exclusive Gateways



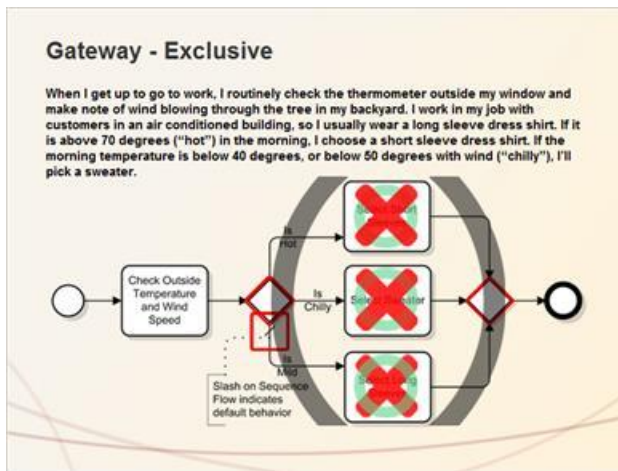
Notes:

I'll give you time to read this narrative and review the BPMN diagram that represents it.

We'll review this diagram on the next slide.

Click the "Next" button when you are ready to proceed.

1.3 Exclusive Gateways



Notes:

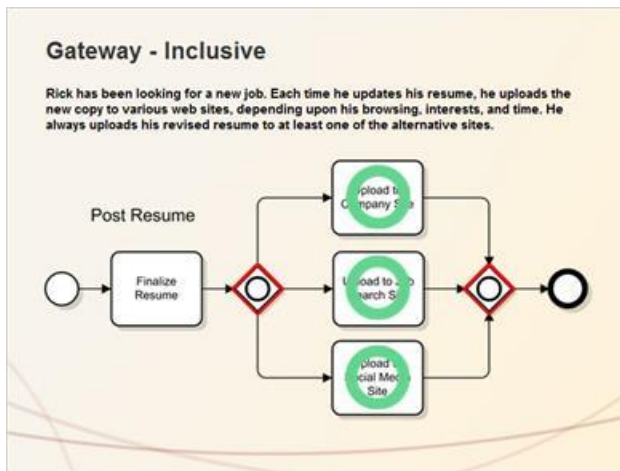
You can see that my choices for clothing are mutually exclusive. What I wear depends upon specific criteria. Can you see why I used an Exclusive Gateway in this process flow? I am either going to wear a short sleeve shirt, a sweater, or a long sleeve shirt. As the Annotation in the diagram indicates, by default I wear a long sleeve shirt.

The Exclusive Gateway requires that **only one pathway must be taken** among the two or more alternatives. In this example, there are three possible paths. Can you see how this Exclusive Gateway might also be used for a simple “yes / no” decision between two pathways? The Exclusive Gateway is the most commonly used of all Gateway objects.

Do you find it strange that there are two Exclusive Gateways in this diagram? I’ve found that including a second Exclusive Gateways helps the user understand where a set of alternative pathways ends. While the example here is very simple, a complex diagram can be confusing without using this practice of “pairing” Gateways. You might think of the two Gateways as a set of parentheses which encapsulate the enclosed BPMN objects and pathways.

Now we’ll look at the Inclusive Gateway.

1.4 Inclusive Gateways

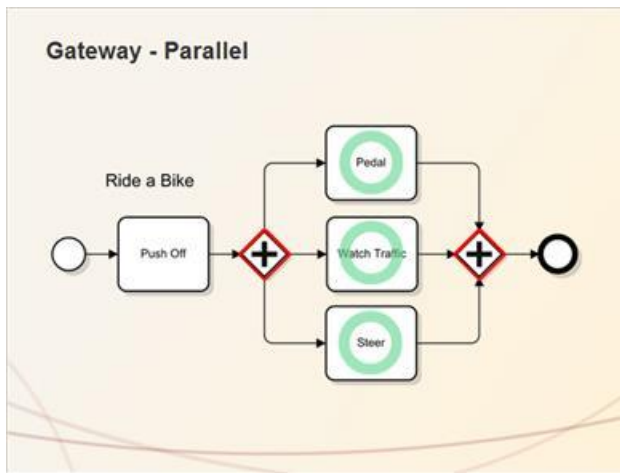


Notes:

I'll give you about 30 seconds to read the narrative and review this diagram. <Wait 30 seconds.> You can see that Rick has several choices when uploading his revised resume. As the narrative indicates, Rick may upload his resume to any, some, or all of the sites. The Inclusive Gateway models this behavior. It indicates that **at least one decision path must be taken** from among two or more possible paths.

Like you saw with the Exclusive Gateway in the previous slide, using Inclusive Gateways in pairs encapsulates all of the enclosed Tasks and Flows.

1.5 Parallel Gateways



Notes:

Take a few moments to review this diagram. Riding a bicycle is a remarkably complex process! This diagram represents only a few of the Activities that must be done while you are riding a bike. The Parallel Gateway indicates that **all available paths must be taken**. Once again, I used a pair of these Gateways to encapsulate the set of pathways and Activities.

You may be wondering why the BPMN standard calls these objects “gateways”. You can think of a “gateway” as something that halts progress until a certain condition is met. This is the case with a BPMN Gateway - the process flow cannot continue until the specific restrictions of the Gateway are met. As you recall, all pathways must be followed for a Parallel Gateway. For an Inclusive Gateway one or more pathways must be followed. For an Exclusive Gateway only one pathway must be followed.

Here is another reason to use Gateways in pairs - the second of a Gateway pair becomes a process “checkpoint,” that is, the flow of the process cannot continue until the specific condition of that Gateway type has been met. In the example on this slide, the flow cannot continue past the second Parallel Gateway until all of the activities in each of the alternative pathways is complete.