Exercise 10a | Combine to Checkout - Combine Precondition

Objective

By the end of this exercise, you will be able to automatically combine Instances.

Why is this important?

Tricentis Tosca offers the ability to automatically generate Instances using Linear Expansion.

Instructions

1.	Duplicate the Folder: "**Exercise 9b Build Structure - Use Classes**" and rename it "**Exercise 10a Combine to Checkout - Combine Precondition**".	☐

Context

As with manual linear expansion, the process starts at the lower Attribute levels and then moves upwards. Therefore, the expansion starts at the Attributes: "Precondition" and "Checkout". It is important to decide what Attributes require combining.
For the Attribute "Precondition", it is only the type of customer as the type of product is not important. This will be the standard (StraightThrough) purchase.
For the Attribute "Checkout", the focus of the TestSheet is on the payment methods. Therefore, only the "Payment Methods" Attribute requires combination.

2.	Focus on the Attribute "**Precondition**". Create an Instance, but then immediately **delete** the Instance that will have the default name "**Precondition**" to leave just the Instance Folder.	☐
3.	Select the Attribute "**Customer**". Right click and select "**Generate Instances > Linear Expansion**".	☐
4.	Focus on the "**Precondition**" Attribute. Rename the StraightThrough Instance "**Standard**". Where "**Product**" intersects the Instance "**Standard**", add the Value "**Physical**" from the drop-down box.	☐
5.	Select the Attribute "**Checkout**". Create an Instance, but then immediately **delete** the Instance that will have the default name "**Checkout**" to leave just the Instance Folder.	☐
6.	Select the Attribute "**Payment Method**". Right click and select "**Generate Instances > Linear Expansion**".	☐
7.	For all Values that have not been populated, select the **StraightThrough** Instance.	☐

Exercise 10b | Combine to TestSheet and add Values

Objective

By the end of this exercise, you will be able to automatically combine Instances at the TestSheet level.

Why is this important?

This demonstrates how to add the TestSheet Instances automatically using Linear Expansion.

Instructions

1.	Duplicate the Folder: "**Exercise 10a Combine to Checkout - Combine Precondition**" and rename it "**Exercise 10b Combine to TestSheet and add Values**".	☐

Context

As before, the Instances need to be completed at the TestSheet Level. Tosca can do this automatically. Values for the "Verification" Attribute should also be added. As before, the success message will be verified.

In the "Order Details" Verification there are two options: 1) the order Value: when a payment method that does not incur a charge is used (e.g. Credit Card), and 2) the order Value plus the payment fee: when a payment method that incurs a fee is used (e.g. Cash on delivery).

For the Value of the total price, a dynamic expression is being used. This will tell the Automation Specialist to Buffer the price of the Blue Jeans and then multiply it by the number of products to be ordered in the TestSheet.

2.	Navigate to the "**Calculate Payment Fee**" TestSheet level. Right click on the TestSheet and select "**Generate Instances > Linear Expansion**".	☐
3.	Navigate to the "**Message**" Attribute (*Verification>>Message*). Add the Instance: • **Success Message**	☐
4.	Within the "**Message**" (*Verification>>Message*) Attribute, add an Attribute named "**Value**". Add the Instance: • **Your order has been successfully processed** Where the Attribute "**Value**" intersects with the Instance "**Success Message**", select the Value "**Your order has been successfully processed**".	☐
5.	Navigate to the "**Payment Fee**" Attribute (*Verification>>Order Details>>Payment Fee*), and add the Instances: • **No Fee** • **Cash on Delivery Fee**	☐
6.	Within the "**Payment Fee**" Attribute (*Verification>>Order Details>>Payment Fee*), add an Attribute named "**Values**".	☐
7.	Navigate to the "**Total Price**" Attribute (*Verification>>Order Details>>Total Price*), and add the Instances: • **Order Value** • **Order Value + Payment Fee**	☐
8.	Within the "**Total Price**" Attribute (*Verification>>Order Details>>Total Price*), add an Attribute named "**Value**".	☐
9.	Within the Attribute Named "**Value**", add the Instances: • **{MATH[{B[PriceBlueJeans]}*{XL[Precondition.Product.Quantity]}]}** • **{MATH[{B[PriceBlueJeans]}*{XL[Precondition.Product.Quantity]}+{XL[Verification.Order Details. Payment Fee]}]}**	☐
10.	Enter the appropriate Values for the TestSheet as per the table below:	☐

	Instances					
	StraightThrough	Credit Card |Master Cart	Credit Card |Discover	Credit Card |American Express	Purchase Order	Cash on Delivery
Attributes						
Administration						
Test Designer	**Steven Design**	**Steven Design**	**Steven Design**	**Steven Design**	**Steven Design**	**Steven Design**
Contact Person	**Carl Business**	**Carl Business**	**Carl Business**	**Carl Business**	**Carl Business**	**Carl Business**
Test Stage	**Smoke**	**Regression**	**Regression**	**Regression**	**Regression**	**Regression**
Precondition						
Precondition	**Standard**	**Standard**	**Standard**	**Standard**	**Standard**	**Standard**
Process						
Checkout	**Standard**	**Credit Card | Master Card**	**Credit Card | Discover**	**Credit Card | American Express**	**Purchase Order**	**Cash on Delivery**
Verification						
Message	**Success Message**	**Success Message**	**Success Message**	**Success Message**	**Success Message**	**Success Message**
Order Details / Payment Fee	**No Fee**	**No Fee**	**No Fee**	**No Fee**	**No Fee**	**Cash on Delivery Fee**
Order Details / Payment Fee / Values	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**7.00**
Order Details/ Total Price	**Order Value**	**Order Value**	**Order Value**	**Order Value**	**Order Value**	**Order Value + Payment Fee**
Order Details/ Total Price / Value	***See table below***					

Instance	Value
StraightThrough	**{MATH[{B[PriceBlueJeans]}*{XL[Precondition.Product.Quantity]}]}**
Credit Card | Master Card	**{MATH[{B[PriceBlueJeans]}*{XL[Precondition.Product.Quantity]}]}**
Credit Card | Discover	**{MATH[{B[PriceBlueJeans]}*{XL[Precondition.Product.Quantity]}]}**
Credit Card | American Express	**{MATH[{B[PriceBlueJeans]}*{XL[Precondition.Product.Quantity]}]}**
Purchase Order	**{MATH[{B[PriceBlueJeans]}*{XL[Precondition.Product.Quantity]}]}**
Cash on Delivery	**{MATH[{B[PriceBlueJeans]}*{XL[Precondition.Product. Quantity]}+{XL[Verification.Order Details.Payment Fee]}]}**

11. Link the TestSheet to the relevant Requirements: "**Payment Methods**" (*Backlog>>Final Linked Requirements>>Demo Web Shop>>Order Process>>Payment Methods*) and "**US2: As a user, I want to order use different payment methods and pay the correct payment fee**" (*Sprint Backlogs>>Final Linked Requirements>>Sprint#>>US2: As a user, I want to order use different payment methods and pay the correct payment fee*). ☐

Hints

» Instead of creating all Attributes from scratch, they can be copied from a previous TestSheet and pasted into the new one. Bear in mind that amendments may be necessary.

Exercise 10c | Combine to TestSheet and add Values

Objective

By the end of this exercise, you will be able to amend the TestSheet and complete the Instance structure.

Why is this important?

As before, systems change and Test Sheets need to change too. This exercise demonstrates how the addition of a new Attribute is easily accommodated.

Instructions

1. Duplicate the Folder: "**Exercise 10b Combine to TestSheet and add Values**" and rename it "**Exercise 10c Adapt Class and Complete Instances, Adaptations --> Final TestSheet**". ☐

Context

There has been an additional function added to the SUT, that a customer can pay for the goods that have been ordered using a check or Money Order. There is an additional charge for this service of $5.00.
This additional payment service must be accommodated in the TestSheet, with the necessary change to the class / TestSheet.

2. Navigate to the Classes Folder "**Exercise 9a + 10c Create and Adapt Classes**". Navigate to the "**Payment Method**" Class and add the Instance "**Check / Money Order**". ☐
3. Add the Values to the Instance "**Check / Money Order**" as per the table below: ☐

	Instances
	Check / Money Order
Class	
Payment Method	
Credit Card Information	**N/A**
Purchase Order Number	**N/A**

4. Navigate to the "**Calculate Payment Fee**" TestSheet in Folder "**Exercise 10c Adapt Class and Complete Instances, Adaptations --> Final TestSheet**". Focus on the "**Checkout**" Attribute. Right click on the Attribute "**Payment Method**" and select "**Complete Instances > Linear Expansion**". ☐
5. Navigate to the Attribute "**Payment Fee**" (*Verification>>Order Details>>Payment Fee*). Add the Instance "**Check / Money order Fee**". Enter the Value of "**5.00**" where the "**Values**" Attribute intersects with the "**Check / Money order Fee**" Instance. ☐
6. Focus on the TestSheet. Right click on the TestSheet and select "**Complete Instances > Linear Expansion**". ☐
7. Complete the Values for the new TestSheet Instances as per the table below: ☐

	Instances
	Check / Money order Fee
Attributes	
Administration	
Test Designer	**Steven Design**
Contact Person	**Carl Business**
Test Stage	**Regression**
Precondition	
Precondition	**Standard**
Process	
Checkout	**Check / Money Order**
Verification	
Message	**Success Message**
Order Details / Payment Fee	**Check / Money Order**
Order Details/ Total Price	**Order Value + Payment Fee**

8. Link the TestSheet Instance "**Check / Money Order**" to the relevant Requirements: "**Payment Methods**" (*Backlog>>Final Linked Requirements>>Demo Web Shop>>Order Process>>Payment Methods*) and "**US2: As a user, I want to order use different payment methods and pay the correct payment fee**" (*Sprint Backlogs>>Final Linked Requirements>>Sprint#>>US2: As a user, I want to order use different payment methods and pay the correct payment fee*). ☐