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Initial Phase:

Below are some of the code smell I found on the given program. I have identified the bad smell and the problem that might occur if not refactored at the early stage stage.

Code Bad smell 1	
❖ Name:	Large class
❖ Location:	interview-test-platform/Chekout/Till.cs
❖ <Code Line>:	10-79
❖ Reasons:	<ul style="list-style-type: none">✓ The Till class contains too many methods and duplication of code. At the moment it is maintainable but if new features get extended there will a lot of problems related to flexibility and functionality.












Code Bad smell 2	
❖ Name:	Switch Statement
❖ Location:	interview-test-platform/Chekout/Till.cs
❖ <Code Line>:	21-33
❖ Reasons:	<ul style="list-style-type: none">✓ The method name "Total " contain too many switch statement and it is tightly coupled to the item name. In the future, if the team decides to add another item they have to manually write the item name which violates the flexibility rule. In addition to this, it also makes the method bigger and hard to read.

Planning Phase:

As from the above bad smell, we can easily see a lack of flexibility in the program. The method "Total" is tightly hard-code which makes for the client difficult to make a change if needed, so my solution to this problem would be based on flexibility design, proper N-tier architecture , good naming convention and 100% test coverage.

In addition to this, a common Interface will be built so that implementation can be changed based on the user requirement.

Test Report:

Test Explorer			
			
Test	Duration	Traits	Error Message
▲  Checkout.Tests (7)	37 ms		
▲  Checkout.Tests (7)	37 ms		
▲  TillTest (7)	37 ms		
 Given_AB_TotalPrice_ShouldBe_80	< 1 ms		
 Given_A_TotalPrice_ShouldBe_50	37 ms		
 Given_CDBA_TotalPrice_ShouldBe_115	< 1 ms		
 Given_Checkout_Till_ShoulBe_0_WithoutItem	< 1 ms		
 Given_TwoAaltems_TotalPrice_ShouldBe_50	< 1 ms		
 Given_TwoltemsOfTypeA_TotalPrice_ShouldBe_100	< 1 ms		
 Given_TwoltemsOfTypeB_TotalPrice_ShouldBe_45	< 1 ms		