

Testing

T4

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Test Cases – Category Partitioning

Category	Value	Constraints
SelectMenu	PurchaseDrink	[property purchaseDrink]
	InputAuthCode	[property inputAuthCode]
ShowMenuList	T	[if purchaseDrink][property showMenuList]
	F	[if inputAuthCode]
DrinkIDInput	1~20	[if showMenuList][property drinkID]
	else	[if showMenuList][error]
DrinkNumInput	1~99	[if showMenuList && drinkID][property drinkNum]
	else	[if showMenuList][error]
SelectedDrinkID	SelectedDrinkID	[if drinkID]
SelectedDrinkNum	>= drinkNum	[if drinkNum][property drinkNumSuff]
	< drinkNum	[if drinkNum][property drinkNumInsuff]
SelectPrepay	Y	[if drinkNumInsuff][property selectPrepay]
	N	[if drinkNumInsuff][property noPrepay]
	else	[if drinkNumInsuff][error]
RequestPayment	T	[if (drinkID && drinkNumSuff) selectPrepay][property requestPayment]
	F	[if drinkNumInsuff && noPrepay]
CardNum	card info	[if requestPayment selectPrepay][property cardInfo]
ValidateCardInfo	Valid	[if cardInfo][property validCard]
	Invalid	[if cardInfo][property invalidCard]
InquireCardBalance	>= price	[if validCard][property balanceSuff]
	< price	[if validCard][property balanceInsuff]
PaymentInfo	Success	[if balanceSuff][property paymentSuccess]
	Fail	[if invalidCard balanceInsuff][property paymentFail]
SearchAltDVM	T	[if drinkNumInsuff (selectPrepay && paymentSuccess)][property searchALTDVM]
	F	[if drinkNumSuff]
StockID	RequestedDrinkID	[if searchALTDVM]
	else	[if searchALTDVM][error]
AltDVMStockNum	>= drinkNum	[if searchALTDVM][property stockSuff]
	< drinkNum	[if searchALTDVM][property stockInsuff]
	else	[if searchALTDVM][error]
AltDVMLocation	(0~99, 0~99)	[if searchALTDVM]
	else	[if searchALTDVM][error]
AltDVMPrepayAvail	T	[if searchALTDVM && stockSuff][property prepayAvail]
	F	[if searchALTDVM && stockInsuff]
	else	[if searchALTDVM][error]
GenerateAuthCode	T	[if selectPrepay && paymentSuccess && prepayAvail]
	F	[if !selectPrepay !paymentSuccess !prepayAvail]
ReqDrinkID	RequestedDrinkID	[property requestedDrinkID]
	else	[error]
ReqDrinkNum	RequestedDrinkNum	[property requestedDrinkNum]
	else	[error]
PrepayAvail	>= requestedDrinkNum	[if requestedDrinkID && requestedDrinkNum][property respondAvail]
	< requestedDrinkNum	[if requestedDrinkID && requestedDrinkNum][property respondUnavail]
AuthCodeInfo	Y	[if respondAvail][property authCodeInfo]
	N	[if respondUnavail][property noAuthCodeInfo]
InputAuthCode	Valid	[if inputAuthCode && authCodeInfo][property validAuthCode]
	Invalid	[if inputAuthCode][property invalidAuthCode]
UpdateStock	T	[if paymentSuccess authCodeInfo]
	F	[if paymentFail noAuthCodeInfo]
ProvideDrink	T	[if paymentSuccess validAuthCode]
	F	[if paymentFail invalidAuthCode]

Test Results – Category Partitioning

```
Test Case 1      <error> (follows [if])  
| DrinkIDInput (User) : else
```

1. Fail (무한루프 발생)

```
Test Case 2      <error> (follows [if])  
| DrinkNumInput (User) : else
```

2. Fail (무한루프 발생)

```
Test Case 3      <error> (follows [if])  
| SelectPrepay (User) : else
```

3. Pass

```
Test Case 4      <error> (follows [if])  
| StockID (AltDVM) : else
```

4. Fail (타 자판기와 연결 구현 안됨)

```
Test Case 5      <error> (follows [if])  
| AltDVMStockNum (AltDVM) : else
```

5. Fail (타 자판기와 연결 구현 안됨)

```
Test Case 6      <error> (follows [if])  
| AltDVMLocation (AltDVM) : else
```

6. Fail (타 자판기와 연결 구현 안됨)

```
Test Case 7      <error> (follows [if])  
| AltDVMPrepayAvail (AltDVM) : else
```

7. Fail (타 자판기와 연결 구현 안됨)

```
Test Case 8      <error>  
| ReqDrinkID (AltDVM) : else
```

8. Fail (타 자판기와 연결 구현 안됨)

```
Test Case 9      <error>  
| ReqDrinkNum (AltDVM) : else
```

9. Fail (타 자판기와 연결 구현 안됨)

Test Results – Category Partitioning

```
Test Case 10      (Key = 1.1.1.1.1.0.1.1.1.1.1.2.0.0.0.0.2.1.1.1.0.1.1.)
SelectMenu (User)      : PurchaseDrink
ShowMenuList (DVM)     : T
DrinkIDInput (User)    : 1~20
DrinkNumInput (User)   : 1~99
SelectedDrinkID (DVM)  : SelectedDrinkID
SelectedDrinkNum (DVM) : >= drinkNum
SelectPrepay (User)    : <n/a>
RequestPayment (DVM)   : T
CardNum (User)         : Card info
ValidateCardInfo (Bank): Valid
InquireCardBalance (Bank) : >= price
PaymentInfo (Bank)     : Success
SearchAltDVM (DVM)     : F
StockID (AltDVM)       : <n/a>
AltDVMStockNum (AltDVM) : <n/a>
AltDVMLocation (AltDVM) : <n/a>
AltDVMPrepayAvail (AltDVM) : <n/a>
GenerateAuthCode (DVM) : F
ReqDrinkID (AltDVM)    : RequestedDrinkID
ReqDrinkNum (AltDVM)   : RequestedDrinkNum
PrepayAvail (DVM)      : >= requestedDrinkNum
AuthCodeInfo (AltDVM)  : Y
InputAuthCode (User)   : <n/a>
UpdateStock (DVM)      : T
ProvideDrink (DVM)     : T
```

10. Fail

음료의 재고가 충분하고 계좌 잔액이 충분한 경우
구매 프로세스는 진행되나, 외부 자판기와 통신 불가

```
Test Case 11      (Key = 1.1.1.1.1.0.1.1.1.1.1.2.0.0.0.0.2.1.1.2.2.0.1.1.)
SelectMenu (User)      : PurchaseDrink
ShowMenuList (DVM)     : T
DrinkIDInput (User)    : 1~20
DrinkNumInput (User)   : 1~99
SelectedDrinkID (DVM)  : SelectedDrinkID
SelectedDrinkNum (DVM) : >= drinkNum
SelectPrepay (User)    : <n/a>
RequestPayment (DVM)   : T
CardNum (User)         : Card info
ValidateCardInfo (Bank): Valid
InquireCardBalance (Bank) : >= price
PaymentInfo (Bank)     : Success
SearchAltDVM (DVM)     : F
StockID (AltDVM)       : <n/a>
AltDVMStockNum (AltDVM) : <n/a>
AltDVMLocation (AltDVM) : <n/a>
AltDVMPrepayAvail (AltDVM) : <n/a>
GenerateAuthCode (DVM) : F
ReqDrinkID (AltDVM)    : RequestedDrinkID
ReqDrinkNum (AltDVM)   : RequestedDrinkNum
PrepayAvail (DVM)      : < requestedDrinkNum
AuthCodeInfo (AltDVM)  : N
InputAuthCode (User)   : <n/a>
UpdateStock (DVM)      : T
ProvideDrink (DVM)     : T
```

11. Fail

음료의 재고가 충분하고 계좌 잔액이 충분한 경우
구매 프로세스는 진행되나, 외부 자판기와 통신 불가

Test Results – Category Partitioning

```
Test Case 12      (Key = 1.1.1.1.1.0.1.1.1.2.2.2.0.0.0.2.1.1.1.0.1.2.)
SelectMenu (User)      : PurchaseDrink
ShowMenuList (DVM)     : T
DrinkIDInput (User)    : 1~20
DrinkNumInput (User)   : 1~99
SelectedDrinkID (DVM)  : SelectedDrinkID
SelectedDrinkNum (DVM) : >= drinkNum
SelectPrepay (User)    : <n/a>
RequestPayment (DVM)   : T
CardNum (User)         : Card info
ValidateCardInfo (Bank) : Valid
InquireCardBalance (Bank) : < price
PaymentInfo (Bank)     : Fail
SearchAltDVM (DVM)    : F
StockID (AltDVM)       : <n/a>
AltDVMStockNum (AltDVM) : <n/a>
AltDVMLocation (AltDVM) : <n/a>
AltDVMPrepayAvail (AltDVM) : <n/a>
GenerateAuthCode (DVM) : F
ReqDrinkID (AltDVM)    : RequestedDrinkID
ReqDrinkNum (AltDVM)   : RequestedDrinkNum
PrepayAvail (DVM)      : >= requestedDrinkNum
AuthCodeInfo (AltDVM)  : Y
InputAuthCode (User)   : <n/a>
UpdateStock (DVM)      : T
ProvideDrink (DVM)     : F
```

12. Fail

잔액 부족 시 음료 구매를 할 수 없다는 부분은 충족되나, 외부 자판기와 통신 불가

```
Test Case 13      (Key = 1.1.1.1.1.0.1.1.1.2.2.2.0.0.0.2.1.1.1.0.2.2.)
SelectMenu (User)      : PurchaseDrink
ShowMenuList (DVM)     : T
DrinkIDInput (User)    : 1~20
DrinkNumInput (User)   : 1~99
SelectedDrinkID (DVM)  : SelectedDrinkID
SelectedDrinkNum (DVM) : >= drinkNum
SelectPrepay (User)    : <n/a>
RequestPayment (DVM)   : T
CardNum (User)         : Card info
ValidateCardInfo (Bank) : Valid
InquireCardBalance (Bank) : < price
PaymentInfo (Bank)     : Fail
SearchAltDVM (DVM)    : F
StockID (AltDVM)       : <n/a>
AltDVMStockNum (AltDVM) : <n/a>
AltDVMLocation (AltDVM) : <n/a>
AltDVMPrepayAvail (AltDVM) : <n/a>
GenerateAuthCode (DVM) : F
ReqDrinkID (AltDVM)    : RequestedDrinkID
ReqDrinkNum (AltDVM)   : RequestedDrinkNum
PrepayAvail (DVM)      : >= requestedDrinkNum
AuthCodeInfo (AltDVM)  : Y
InputAuthCode (User)   : <n/a>
UpdateStock (DVM)      : F
ProvideDrink (DVM)     : F
```

13. Fail

잔액 부족 시 음료를 구매할 수 없다는 부분은 충족되나, 외부 자판기와 통신 불가

→ 이 케이스에서 UpdateCurrentStock 항목이 F로 나오는 원인을 아직 파악하지 못함

Test Results – Category Partitioning

```
Test Case 14      (Key = 1.1.1.1.1.1.0.1.1.1.2.2.2.0.0.0.0.2.1.1.2.2.0.2.2.)
SelectMenu (User)      : PurchaseDrink
ShowMenuList (DVM)     : T
DrinkIDInput (User)    : 1~20
DrinkNumInput (User)   : 1~99
SelectedDrinkID (DVM)  : SelectedDrinkID
SelectedDrinkNum (DVM) : >= drinkNum
SelectPrepay (User)    : <n/a>
RequestPayment (DVM)   : T
CardNum (User)         : Card info
ValidateCardInfo (Bank) : Valid
InquireCardBalance (Bank) : < price
PaymentInfo (Bank)     : Fail
SearchAltDVM (DVM)     : F
StockID (AltDVM)       : <n/a>
AltDVMStockNum (AltDVM) : <n/a>
AltDVMLocation (AltDVM) : <n/a>
AltDVMPrepayAvail (AltDVM) : <n/a>
GenerateAuthCode (DVM) : F
ReqDrinkID (AltDVM)    : RequestedDrinkID
ReqDrinkNum (AltDVM)   : RequestedDrinkNum
PrepayAvail (DVM)      : < requestedDrinkNum
AuthCodeInfo (AltDVM)  : N
InputAuthCode (User)   : <n/a>
UpdateStock (DVM)      : F
ProvideDrink (DVM)     : F
```

14. Fail

잔액 부족 시 음료 구매를 할 수 없다는 부분은 충족되나, 외부 자판기와 통신 불가

```
Test Case 15      (Key = 1.1.1.1.1.1.0.1.1.2.0.2.2.0.0.0.0.2.1.1.1.0.1.2.)
SelectMenu (User)      : PurchaseDrink
ShowMenuList (DVM)     : T
DrinkIDInput (User)    : 1~20
DrinkNumInput (User)   : 1~99
SelectedDrinkID (DVM)  : SelectedDrinkID
SelectedDrinkNum (DVM) : >= drinkNum
SelectPrepay (User)    : <n/a>
RequestPayment (DVM)   : T
CardNum (User)         : Card info
ValidateCardInfo (Bank) : Invalid
InquireCardBalance (Bank) : <n/a>
PaymentInfo (Bank)     : Fail
SearchAltDVM (DVM)     : F
StockID (AltDVM)       : <n/a>
AltDVMStockNum (AltDVM) : <n/a>
AltDVMLocation (AltDVM) : <n/a>
AltDVMPrepayAvail (AltDVM) : <n/a>
GenerateAuthCode (DVM) : F
ReqDrinkID (AltDVM)    : RequestedDrinkID
ReqDrinkNum (AltDVM)   : RequestedDrinkNum
PrepayAvail (DVM)      : >= requestedDrinkNum
AuthCodeInfo (AltDVM)  : Y
InputAuthCode (User)   : <n/a>
UpdateStock (DVM)      : T
ProvideDrink (DVM)     : F
```

15. Fail

유효하지 않은 카드 정보를 입력하는 경우 음료를 구매할 수 없다는 부분은 충족되나, 외부 자판기와 통신 불가

Test Results – Category Partitioning

```
Test Case 16      (Key = 1.1.1.1.1.1.0.1.1.2.0.2.2.0.0.0.2.1.1.1.0.2.2.)
SelectMenu (User)      : PurchaseDrink
ShowMenuList (DVM)     : T
DrinkIDInput (User)    : 1~20
DrinkNumInput (User)   : 1~99
SelectedDrinkID (DVM)  : SelectedDrinkID
SelectedDrinkNum (DVM) : >= drinkNum
SelectPrepay (User)    : <n/a>
RequestPayment (DVM)   : T
CardNum (User)         : Card info
ValidateCardInfo (Bank): Invalid
InquireCardBalance (Bank): <n/a>
PaymentInfo (Bank)     : Fail
SearchAltDVM (DVM)     : F
StockID (AltDVM)       : <n/a>
AltDVMStockNum (AltDVM): <n/a>
AltDVMLocation (AltDVM): <n/a>
AltDVMPrepayAvail (AltDVM): <n/a>
GenerateAuthCode (DVM) : F
ReqDrinkID (AltDVM)    : RequestedDrinkID
ReqDrinkNum (AltDVM)   : RequestedDrinkNum
PrepayAvail (DVM)      : >= requestedDrinkNum
AuthCodeInfo (AltDVM)  : Y
InputAuthCode (User)   : <n/a>
UpdateStock (DVM)      : F
ProvideDrink (DVM)     : F
```

16. Fail

유효하지 않은 카드 정보를 입력하는 경우 음료를 구매할 수 없다는 부분은 충족되나, 외부 자판기와 통신 불가

→ 이 케이스에서 UpdateCurrentStock 항목이 F로 나오는 원인을 아직 파악하지 못함

```
Test Case 17      (Key = 1.1.1.1.1.1.0.1.1.2.0.2.2.0.0.0.2.1.1.2.0.2.2.)
SelectMenu (User)      : PurchaseDrink
ShowMenuList (DVM)     : T
DrinkIDInput (User)    : 1~20
DrinkNumInput (User)   : 1~99
SelectedDrinkID (DVM)  : SelectedDrinkID
SelectedDrinkNum (DVM) : >= drinkNum
SelectPrepay (User)    : <n/a>
RequestPayment (DVM)   : T
CardNum (User)         : Card info
ValidateCardInfo (Bank): Invalid
InquireCardBalance (Bank): <n/a>
PaymentInfo (Bank)     : Fail
SearchAltDVM (DVM)     : F
StockID (AltDVM)       : <n/a>
AltDVMStockNum (AltDVM): <n/a>
AltDVMLocation (AltDVM): <n/a>
AltDVMPrepayAvail (AltDVM): <n/a>
GenerateAuthCode (DVM) : F
ReqDrinkID (AltDVM)    : RequestedDrinkID
ReqDrinkNum (AltDVM)   : RequestedDrinkNum
PrepayAvail (DVM)      : < requestedDrinkNum
AuthCodeInfo (AltDVM)  : N
InputAuthCode (User)   : <n/a>
UpdateStock (DVM)      : F
ProvideDrink (DVM)     : F
```

17. Fail

유효하지 않은 카드 정보를 입력하는 경우 음료를 구매할 수 없다는 부분은 충족되나, 외부 자판기와 통신 불가

Test Results – Category Partitioning

```
Test Case 18      (Key = 1.1.1.1.1.2.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.0.1.1.)
SelectMenu (User)       : PurchaseDrink
ShowMenuList (DVM)      : T
DrinkIDInput (User)     : 1~20
DrinkNumInput (User)    : 1~99
SelectedDrinkID (DVM)   : SelectedDrinkID
SelectedDrinkNum (DVM)  : < drinkNum
SelectPrepay (User)     : Y
RequestPayment (DVM)    : T
CardNum (User)         : Card info
ValidateCardInfo (Bank) : Valid
InquireCardBalance (Bank) : >= price
PaymentInfo (Bank)     : Success
SearchAltDVM (DVM)     : T
StockID (AltDVM)       : RequestedDrinkID
AltDVMStockNum (AltDVM) : >= drinkNum
AltDVMLocation (AltDVM) : (0~99, 0~99)
AltDVMPrepayAvail (AltDVM) : T
GenerateAuthCode (DVM) : T
ReqDrinkID (AltDVM)    : RequestedDrinkID
ReqDrinkNum (AltDVM)   : RequestedDrinkNum
PrepayAvail (DVM)      : >= requestedDrinkNum
AuthCodeInfo (AltDVM)  : Y
InputAuthCode (User)   : <n/a>
UpdateStock (DVM)      : T
ProvideDrink (DVM)     : T
```

18. Fail

선결제와 관련된 내부 프로세스는 정상적으로 동작
하나, 외부 자판기와 통신 불가

```

Test Case 19      (Key = 1.1.1.1.1.2.1.1.1.1.1.1.1.1.1.1.1.1.1.2.2.0.1.1.)
SelectMenu (User)      : PurchaseDrink
ShowMenuList (DVM)     : T
DrinkIDInput (User)    : 1~20
DrinkNumInput (User)   : 1~99
SelectedDrinkID (DVM)  : SelectedDrinkID
SelectedDrinkNum (DVM) : < drinkNum
SelectPrepay (User)    : Y
RequestPayment (DVM)   : T
CardNum (User)         : Card info
ValidateCardInfo (Bank) : Valid
InquireCardBalance (Bank) : >= price
PaymentInfo (Bank)     : Success
SearchAltDVM (DVM)     : T
StockID (AltDVM)       : RequestedDrinkID
AltDVMStockNum (AltDVM) : >= drinkNum
AltDVMLocation (AltDVM) : (0~99, 0~99)
AltDVMPrepayAvail (AltDVM) : T
GenerateAuthCode (DVM) : T
ReqDrinkID (AltDVM)    : RequestedDrinkID
ReqDrinkNum (AltDVM)   : RequestedDrinkNum
PrepayAvail (DVM)      : < requestedDrinkNum
AuthCodeInfo (AltDVM)  : N
InputAuthCode (User)   : <n/a>
UpdateStock (DVM)      : T
ProvideDrink (DVM)     : T

```

19. Fail

선결제와 관련된 내부 프로세스는 정상적으로 동작하나, 외부 자판기와 통신 불가

Test Results – Category Partitioning

```
Test Case 20      (Key = 1.1.1.1.1.2.1.1.1.1.1.1.1.2.1.2.1.1.1.0.1.1.)
SelectMenu (User)      : PurchaseDrink
ShowMenuList (DVM)     : T
DrinkIDInput (User)    : 1~20
DrinkNumInput (User)   : 1~99
SelectedDrinkID (DVM)  : SelectedDrinkID
SelectedDrinkNum (DVM) : < drinkNum
SelectPrepay (User)    : Y
RequestPayment (DVM)   : T
CardNum (User)         : Card info
ValidateCardInfo (Bank) : Valid
InquireCardBalance (Bank) : >= price
PaymentInfo (Bank)     : Success
SearchAltDVM (DVM)     : T
StockID (AltDVM)       : RequestedDrinkID
AltDVMStockNum (AltDVM) : < drinkNum
AltDVMLocation (AltDVM) : (0~99, 0~99)
AltDVMPrepayAvail (AltDVM) : F
GenerateAuthCode (DVM) : F
ReqDrinkID (AltDVM)    : RequestedDrinkID
ReqDrinkNum (AltDVM)   : RequestedDrinkNum
PrepayAvail (DVM)      : >= requestedDrinkNum
AuthCodeInfo (AltDVM)  : Y
InputAuthCode (User)   : <n/a>
UpdateStock (DVM)      : T
ProvideDrink (DVM)     : T
```

20. Fail

선결제와 관련된 내부 프로세스는 정상적으로 동작
하나, 외부 자판기와 통신 불가

```
Test Case 21      (Key = 1.1.1.1.1.2.1.1.1.1.1.1.1.2.1.2.1.1.2.0.1.1.)
SelectMenu (User)      : PurchaseDrink
ShowMenuList (DVM)     : T
DrinkIDInput (User)    : 1~20
DrinkNumInput (User)   : 1~99
SelectedDrinkID (DVM)  : SelectedDrinkID
SelectedDrinkNum (DVM) : < drinkNum
SelectPrepay (User)    : Y
RequestPayment (DVM)   : T
CardNum (User)         : Card info
ValidateCardInfo (Bank) : Valid
InquireCardBalance (Bank) : >= price
PaymentInfo (Bank)     : Success
SearchAltDVM (DVM)     : T
StockID (AltDVM)       : RequestedDrinkID
AltDVMStockNum (AltDVM) : < drinkNum
AltDVMLocation (AltDVM) : (0~99, 0~99)
AltDVMPrepayAvail (AltDVM) : F
GenerateAuthCode (DVM) : F
ReqDrinkID (AltDVM)    : RequestedDrinkID
ReqDrinkNum (AltDVM)   : RequestedDrinkNum
PrepayAvail (DVM)      : < requestedDrinkNum
AuthCodeInfo (AltDVM)  : N
InputAuthCode (User)   : <n/a>
UpdateStock (DVM)      : T
ProvideDrink (DVM)     : T
```

21. Fail

선결제와 관련된 내부 프로세스는 정상적으로 동작
하나, 외부 자판기와 통신 불가

Test Results – Category Partitioning

```
Test Case 22      (Key = 1.1.1.1.1.2.1.1.1.1.2.2.1.1.1.1.1.2.1.1.1.1.0.1.2.)
SelectMenu (User)      : PurchaseDrink
ShowMenuList (DVM)     : T
DrinkIDInput (User)    : 1~20
DrinkNumInput (User)   : 1~99
SelectedDrinkID (DVM)  : SelectedDrinkID
SelectedDrinkNum (DVM) : < drinkNum
SelectPrepay (User)    : Y
RequestPayment (DVM)   : T
CardNum (User)         : Card info
ValidateCardInfo (Bank) : Valid
InquireCardBalance (Bank) : < price
PaymentInfo (Bank)     : Fail
SearchAltDVM (DVM)     : T
StockID (AltDVM)       : RequestedDrinkID
AltDVMStockNum (AltDVM) : >= drinkNum
AltDVMLocation (AltDVM) : (0~99, 0~99)
AltDVMPrepayAvail (AltDVM) : T
GenerateAuthCode (DVM) : F
ReqDrinkID (AltDVM)    : RequestedDrinkID
ReqDrinkNum (AltDVM)   : RequestedDrinkNum
PrepayAvail (DVM)      : >= requestedDrinkNum
AuthCodeInfo (AltDVM)  : Y
InputAuthCode (User)   : <n/a>
UpdateStock (DVM)      : T
ProvideDrink (DVM)     : F
```

22. Fail

계좌 잔액이 부족한 경우 선결제가 거절되는 프로세스까지는 정상적으로 동작하나, 외부 자판기와 통신 불가

```
Test Case 23      (Key = 1.1.1.1.1.2.1.1.1.1.2.2.1.1.1.1.1.2.1.1.1.1.0.2.2.)
SelectMenu (User)      : PurchaseDrink
ShowMenuList (DVM)     : T
DrinkIDInput (User)    : 1~20
DrinkNumInput (User)   : 1~99
SelectedDrinkID (DVM)  : SelectedDrinkID
SelectedDrinkNum (DVM) : < drinkNum
SelectPrepay (User)    : Y
RequestPayment (DVM)   : T
CardNum (User)         : Card info
ValidateCardInfo (Bank) : Valid
InquireCardBalance (Bank) : < price
PaymentInfo (Bank)     : Fail
SearchAltDVM (DVM)     : T
StockID (AltDVM)       : RequestedDrinkID
AltDVMStockNum (AltDVM) : >= drinkNum
AltDVMLocation (AltDVM) : (0~99, 0~99)
AltDVMPrepayAvail (AltDVM) : T
GenerateAuthCode (DVM) : F
ReqDrinkID (AltDVM)    : RequestedDrinkID
ReqDrinkNum (AltDVM)   : RequestedDrinkNum
PrepayAvail (DVM)      : >= requestedDrinkNum
AuthCodeInfo (AltDVM)  : Y
InputAuthCode (User)   : <n/a>
UpdateStock (DVM)      : F
ProvideDrink (DVM)     : F
```

23. Fail

계좌 잔액이 부족한 경우 선결제가 거절되는 프로세스까지는 정상적으로 동작하나, 외부 자판기와 통신 불가

→ 이 케이스에서 UpdateCurrentStock 항목이 F로 나오는 원인을 아직 파악하지 못함

Test Results – Category Partitioning

```
Test Case 24      (Key = 1.1.1.1.1.2.1.1.1.1.2.2.1.1.1.1.1.2.1.1.2.2.0.2.2.)
SelectMenu (User)      : PurchaseDrink
ShowMenuList (DVM)     : T
DrinkIDInput (User)    : 1~20
DrinkNumInput (User)   : 1~99
SelectedDrinkID (DVM)  : SelectedDrinkID
SelectedDrinkNum (DVM) : < drinkNum
SelectPrepay (User)    : Y
RequestPayment (DVM)   : T
CardNum (User)         : Card info
ValidateCardInfo (Bank) : Valid
InquireCardBalance (Bank) : < price
PaymentInfo (Bank)     : Fail
SearchAltDVM (DVM)     : T
StockID (AltDVM)       : RequestedDrinkID
AltDVMStockNum (AltDVM) : >= drinkNum
AltDVMLocation (AltDVM) : (0~99, 0~99)
AltDVMPrepayAvail (AltDVM) : T
GenerateAuthCode (DVM) : F
ReqDrinkID (AltDVM)    : RequestedDrinkID
ReqDrinkNum (AltDVM)   : RequestedDrinkNum
PrepayAvail (DVM)      : < requestedDrinkNum
AuthCodeInfo (AltDVM)  : N
InputAuthCode (User)   : <n/a>
UpdateStock (DVM)      : F
ProvideDrink (DVM)     : F
```

24. Fail

계좌 잔액이 부족한 경우 선결제가 거절되는 프로세스까지는 정상적으로 동작하나, 외부 자판기와 통신 불가

```
Test Case 25      (Key = 1.1.1.1.1.2.1.1.1.1.2.2.1.1.2.1.1.2.1.1.1.1.0.1.2.)
SelectMenu (User)      : PurchaseDrink
ShowMenuList (DVM)     : T
DrinkIDInput (User)    : 1~20
DrinkNumInput (User)   : 1~99
SelectedDrinkID (DVM)  : SelectedDrinkID
SelectedDrinkNum (DVM) : < drinkNum
SelectPrepay (User)    : Y
RequestPayment (DVM)   : T
CardNum (User)         : Card info
ValidateCardInfo (Bank) : Valid
InquireCardBalance (Bank) : < price
PaymentInfo (Bank)     : Fail
SearchAltDVM (DVM)     : T
StockID (AltDVM)       : RequestedDrinkID
AltDVMStockNum (AltDVM) : < drinkNum
AltDVMLocation (AltDVM) : (0~99, 0~99)
AltDVMPrepayAvail (AltDVM) : F
GenerateAuthCode (DVM) : F
ReqDrinkID (AltDVM)    : RequestedDrinkID
ReqDrinkNum (AltDVM)   : RequestedDrinkNum
PrepayAvail (DVM)      : >= requestedDrinkNum
AuthCodeInfo (AltDVM)  : Y
InputAuthCode (User)   : <n/a>
UpdateStock (DVM)      : T
ProvideDrink (DVM)     : F
```

25. Fail

계좌 잔액이 부족한 경우 선결제가 거절되는 프로세스까지는 정상적으로 동작하나, 외부 자판기와 통신 불가

Test Results – Category Partitioning

```
Test Case 26      (Key = 1.1.1.1.1.2.1.1.1.2.2.1.1.2.1.1.1.0.2.2.)
SelectMenu (User)      : PurchaseDrink
ShowMenuList (DVM)     : T
DrinkIDInput (User)    : 1~20
DrinkNumInput (User)   : 1~99
SelectedDrinkID (DVM)  : SelectedDrinkID
SelectedDrinkNum (DVM) : < drinkNum
SelectPrepay (User)    : Y
RequestPayment (DVM)   : T
CardNum (User)         : Card info
ValidateCardInfo (Bank): Valid
InquireCardBalance (Bank): < price
PaymentInfo (Bank)     : Fail
SearchAltDVM (DVM)    : T
StockID (AltDVM)       : RequestedDrinkID
AltDVMStockNum (AltDVM): < drinkNum
AltDVMLocation (AltDVM): (0~99, 0~99)
AltDVMPrepayAvail (AltDVM): F
GenerateAuthCode (DVM) : F
ReqDrinkID (AltDVM)    : RequestedDrinkID
ReqDrinkNum (AltDVM)   : RequestedDrinkNum
PrepayAvail (DVM)      : >= requestedDrinkNum
AuthCodeInfo (AltDVM)  : Y
InputAuthCode (User)   : <n/a>
UpdateStock (DVM)      : F
ProvideDrink (DVM)     : F
```

26. Fail

계좌 잔액이 부족한 경우 선결제가 거절되는 프로세스까지는 정상적으로 동작하나, 외부 자판기와 통신 불가

→ 이 케이스에서 UpdateCurrentStock 항목이 F로 나오는 원인을 아직 파악하지 못함

```
Test Case 27      (Key = 1.1.1.1.1.2.1.1.1.2.2.1.1.2.1.1.2.0.2.2.)
SelectMenu (User)      : PurchaseDrink
ShowMenuList (DVM)     : T
DrinkIDInput (User)    : 1~20
DrinkNumInput (User)   : 1~99
SelectedDrinkID (DVM)  : SelectedDrinkID
SelectedDrinkNum (DVM) : < drinkNum
SelectPrepay (User)    : Y
RequestPayment (DVM)   : T
CardNum (User)         : Card info
ValidateCardInfo (Bank): Valid
InquireCardBalance (Bank): < price
PaymentInfo (Bank)     : Fail
SearchAltDVM (DVM)    : T
StockID (AltDVM)       : RequestedDrinkID
AltDVMStockNum (AltDVM): < drinkNum
AltDVMLocation (AltDVM): (0~99, 0~99)
AltDVMPrepayAvail (AltDVM): F
GenerateAuthCode (DVM) : F
ReqDrinkID (AltDVM)    : RequestedDrinkID
ReqDrinkNum (AltDVM)   : RequestedDrinkNum
PrepayAvail (DVM)      : < requestedDrinkNum
AuthCodeInfo (AltDVM)  : N
InputAuthCode (User)   : <n/a>
UpdateStock (DVM)      : F
ProvideDrink (DVM)     : F
```

27. Fail

계좌 잔액이 부족한 경우 선결제가 거절되는 프로세스까지는 정상적으로 동작하나, 외부 자판기와 통신 불가

Test Results – Category Partitioning

```
Test Case 28      (Key = 1.1.1.1.1.2.1.1.1.2.0.2.1.1.1.1.1.2.1.1.1.0.1.2.)
SelectMenu (User)      : PurchaseDrink
ShowMenuList (DVM)     : T
DrinkIDInput (User)    : 1~20
DrinkNumInput (User)   : 1~99
SelectedDrinkID (DVM)  : SelectedDrinkID
SelectedDrinkNum (DVM) : < drinkNum
SelectPrepay (User)    : Y
RequestPayment (DVM)   : T
CardNum (User)         : Card info
ValidateCardInfo (Bank): Invalid
InquireCardBalance (Bank) : <n/a>
PaymentInfo (Bank)     : Fail
SearchAltDVM (DVM)    : T
StockID (AltDVM)       : RequestedDrinkID
AltDVMStockNum (AltDVM) : >= drinkNum
AltDVMLocation (AltDVM) : (0~99, 0~99)
AltDVMPrepayAvail (AltDVM) : T
GenerateAuthCode (DVM) : F
ReqDrinkID (AltDVM)    : RequestedDrinkID
ReqDrinkNum (AltDVM)   : RequestedDrinkNum
PrepayAvail (DVM)      : >= requestedDrinkNum
AuthCodeInfo (AltDVM)  : Y
InputAuthCode (User)   : <n/a>
UpdateStock (DVM)      : T
ProvideDrink (DVM)     : F
```

28. Fail

유효하지 않은 카드 정보를 입력하는 경우 선결제
가 불가능하다는 부분은 충족되나, 외부 자판기와
통신 불가

```
Test Case 29      (Key = 1.1.1.1.1.2.1.1.1.2.0.2.1.1.1.1.1.2.1.1.1.0.2.2.)
SelectMenu (User)      : PurchaseDrink
ShowMenuList (DVM)     : T
DrinkIDInput (User)    : 1~20
DrinkNumInput (User)   : 1~99
SelectedDrinkID (DVM)  : SelectedDrinkID
SelectedDrinkNum (DVM) : < drinkNum
SelectPrepay (User)    : Y
RequestPayment (DVM)   : T
CardNum (User)         : Card info
ValidateCardInfo (Bank): Invalid
InquireCardBalance (Bank) : <n/a>
PaymentInfo (Bank)     : Fail
SearchAltDVM (DVM)    : T
StockID (AltDVM)       : RequestedDrinkID
AltDVMStockNum (AltDVM) : >= drinkNum
AltDVMLocation (AltDVM) : (0~99, 0~99)
AltDVMPrepayAvail (AltDVM) : T
GenerateAuthCode (DVM) : F
ReqDrinkID (AltDVM)    : RequestedDrinkID
ReqDrinkNum (AltDVM)   : RequestedDrinkNum
PrepayAvail (DVM)      : >= requestedDrinkNum
AuthCodeInfo (AltDVM)  : Y
InputAuthCode (User)   : <n/a>
UpdateStock (DVM)      : F
ProvideDrink (DVM)     : F
```

29. Fail

유효하지 않은 카드 정보를 입력하는 경우 선결제
가 불가능하다는 부분은 충족되나, 외부 자판기와
통신 불가

→ 이 케이스에서 UpdateCurrentStock 항목이 F로
나오는 원인을 아직 파악하지 못함

Test Results – Category Partitioning

```
Test Case 30      (Key = 1.1.1.1.1.2.1.1.1.2.0.2.1.1.1.1.2.1.1.2.2.0.2.2.)
SelectMenu (User)      : PurchaseDrink
ShowMenuList (DVM)     : T
DrinkIDInput (User)    : 1~20
DrinkNumInput (User)   : 1~99
SelectedDrinkID (DVM)  : SelectedDrinkID
SelectedDrinkNum (DVM) : < drinkNum
SelectPrepay (User)    : Y
RequestPayment (DVM)   : T
CardNum (User)         : Card info
ValidateCardInfo (Bank): Invalid
InquireCardBalance (Bank): <n/a>
PaymentInfo (Bank)     : Fail
SearchAltDVM (DVM)     : T
StockID (AltDVM)       : RequestedDrinkID
AltDVMStockNum (AltDVM): >= drinkNum
AltDVMLocation (AltDVM): (0~99, 0~99)
AltDVMPrepayAvail (AltDVM): T
GenerateAuthCode (DVM) : F
ReqDrinkID (AltDVM)    : RequestedDrinkID
ReqDrinkNum (AltDVM)   : RequestedDrinkNum
PrepayAvail (DVM)      : < requestedDrinkNum
AuthCodeInfo (AltDVM)  : N
InputAuthCode (User)   : <n/a>
UpdateStock (DVM)      : F
ProvideDrink (DVM)     : F
```

30. Fail

유효하지 않은 카드 정보를 입력하는 경우 선결제
가 불가능하다는 부분은 충족되나, 외부 자판기와
통신 불가

```
Test Case 31      (Key = 1.1.1.1.1.2.1.1.1.2.0.2.1.1.2.1.2.2.1.1.1.0.1.2.)
SelectMenu (User)      : PurchaseDrink
ShowMenuList (DVM)     : T
DrinkIDInput (User)    : 1~20
DrinkNumInput (User)   : 1~99
SelectedDrinkID (DVM)  : SelectedDrinkID
SelectedDrinkNum (DVM) : < drinkNum
SelectPrepay (User)    : Y
RequestPayment (DVM)   : T
CardNum (User)         : Card info
ValidateCardInfo (Bank): Invalid
InquireCardBalance (Bank): <n/a>
PaymentInfo (Bank)     : Fail
SearchAltDVM (DVM)     : T
StockID (AltDVM)       : RequestedDrinkID
AltDVMStockNum (AltDVM): < drinkNum
AltDVMLocation (AltDVM): (0~99, 0~99)
AltDVMPrepayAvail (AltDVM): F
GenerateAuthCode (DVM) : F
ReqDrinkID (AltDVM)    : RequestedDrinkID
ReqDrinkNum (AltDVM)   : RequestedDrinkNum
PrepayAvail (DVM)      : >= requestedDrinkNum
AuthCodeInfo (AltDVM)  : Y
InputAuthCode (User)   : <n/a>
UpdateStock (DVM)      : T
ProvideDrink (DVM)     : F
```

31. Fail

유효하지 않은 카드 정보를 입력하는 경우 선결제
가 불가능하다는 부분은 충족되나, 외부 자판기와
통신 불가

Test Results – Category Partitioning

```
Test Case 32      (Key = 1.1.1.1.1.2.1.1.2.0.2.1.1.2.1.2.2.1.1.1.0.2.2.)
SelectMenu (User)      : PurchaseDrink
ShowMenuList (DVM)     : T
DrinkIDInput (User)    : 1~20
DrinkNumInput (User)   : 1~99
SelectedDrinkID (DVM)  : SelectedDrinkID
SelectedDrinkNum (DVM) : < drinkNum
SelectPrepay (User)    : Y
RequestPayment (DVM)   : T
CardNum (User)        : Card info
ValidateCardInfo (Bank) : Invalid
InquireCardBalance (Bank) : <n/a>
PaymentInfo (Bank)    : Fail
SearchAltDVM (DVM)    : T
StockID (AltDVM)      : RequestedDrinkID
AltDVMStockNum (AltDVM) : < drinkNum
AltDVMLocation (AltDVM) : (0~99, 0~99)
AltDVMPrepayAvail (AltDVM) : F
GenerateAuthCode (DVM) : F
ReqDrinkID (AltDVM)   : RequestedDrinkID
ReqDrinkNum (AltDVM)  : RequestedDrinkNum
PrepayAvail (DVM)     : >= requestedDrinkNum
AuthCodeInfo (AltDVM) : Y
InputAuthCode (User)  : <n/a>
UpdateStock (DVM)     : F
ProvideDrink (DVM)    : F
```

32. Fail

유효하지 않은 카드 정보를 입력하는 경우 선결제
가 불가능하다는 부분은 충족되나, 외부 자판기와
통신 불가

```
Test Case 33      (Key = 1.1.1.1.1.2.1.1.2.0.2.1.1.2.1.2.2.1.1.2.0.2.2.)
SelectMenu (User)      : PurchaseDrink
ShowMenuList (DVM)     : T
DrinkIDInput (User)    : 1~20
DrinkNumInput (User)   : 1~99
SelectedDrinkID (DVM)  : SelectedDrinkID
SelectedDrinkNum (DVM) : < drinkNum
SelectPrepay (User)    : Y
RequestPayment (DVM)   : T
CardNum (User)        : Card info
ValidateCardInfo (Bank) : Invalid
InquireCardBalance (Bank) : <n/a>
PaymentInfo (Bank)    : Fail
SearchAltDVM (DVM)    : T
StockID (AltDVM)      : RequestedDrinkID
AltDVMStockNum (AltDVM) : < drinkNum
AltDVMLocation (AltDVM) : (0~99, 0~99)
AltDVMPrepayAvail (AltDVM) : F
GenerateAuthCode (DVM) : F
ReqDrinkID (AltDVM)   : RequestedDrinkID
ReqDrinkNum (AltDVM)  : RequestedDrinkNum
PrepayAvail (DVM)     : < requestedDrinkNum
AuthCodeInfo (AltDVM) : N
InputAuthCode (User)  : <n/a>
UpdateStock (DVM)     : F
ProvideDrink (DVM)    : F
```

33. Fail

유효하지 않은 카드 정보를 입력하는 경우 선결제
가 불가능하다는 부분은 충족되나, 외부 자판기와
통신 불가

Test Results – Category Partitioning

```
Test Case 34      (Key = 1.1.1.1.1.2.2.0.0.0.1.1.1.1.1.2.1.1.1.0.1.0.)
SelectMenu (User)      : PurchaseDrink
ShowMenuList (DVM)     : T
DrinkIDInput (User)    : 1~20
DrinkNumInput (User)   : 1~99
SelectedDrinkID (DVM)  : SelectedDrinkID
SelectedDrinkNum (DVM) : < drinkNum
SelectPrepay (User)    : N
RequestPayment (DVM)   : F
CardNum (User)         : <n/a>
ValidateCardInfo (Bank): <n/a>
InquireCardBalance (Bank): <n/a>
PaymentInfo (Bank)     : <n/a>
SearchAltDVM (DVM)     : T
StockID (AltDVM)       : RequestedDrinkID
AltDVMStockNum (AltDVM): >= drinkNum
AltDVMLocation (AltDVM): (0~99, 0~99)
AltDVMPrepayAvail (AltDVM): T
GenerateAuthCode (DVM) : F
ReqDrinkID (AltDVM)    : RequestedDrinkID
ReqDrinkNum (AltDVM)   : RequestedDrinkNum
PrepayAvail (DVM)      : >= requestedDrinkNum
AuthCodeInfo (AltDVM)  : Y
InputAuthCode (User)   : <n/a>
UpdateStock (DVM)      : T
ProvideDrink (DVM)     : <n/a>
```

34. Fail

사용자가 선결제를 거부하는 경우 결제가 진행되지 않는 것까지는 올바르게 동작하나, 외부 자판기와 통신 불가

```
Test Case 35      (Key = 1.1.1.1.1.2.2.2.0.0.0.1.1.1.1.1.2.1.1.2.2.0.0.0.)
SelectMenu (User)      : PurchaseDrink
ShowMenuList (DVM)     : T
DrinkIDInput (User)    : 1~20
DrinkNumInput (User)   : 1~99
SelectedDrinkID (DVM)  : SelectedDrinkID
SelectedDrinkNum (DVM) : < drinkNum
SelectPrepay (User)    : N
RequestPayment (DVM)   : F
CardNum (User)         : <n/a>
ValidateCardInfo (Bank): <n/a>
InquireCardBalance (Bank): <n/a>
PaymentInfo (Bank)     : <n/a>
SearchAltDVM (DVM)     : T
StockID (AltDVM)       : RequestedDrinkID
AltDVMStockNum (AltDVM): >= drinkNum
AltDVMLocation (AltDVM): (0~99, 0~99)
AltDVMPrepayAvail (AltDVM): T
GenerateAuthCode (DVM) : F
ReqDrinkID (AltDVM)    : RequestedDrinkID
ReqDrinkNum (AltDVM)   : RequestedDrinkNum
PrepayAvail (DVM)      : < requestedDrinkNum
AuthCodeInfo (AltDVM)  : N
InputAuthCode (User)   : <n/a>
UpdateStock (DVM)      : <n/a>
ProvideDrink (DVM)     : <n/a>
```

35. Fail

사용자가 선결제를 거부하는 경우 결제가 진행되지 않는 것까지는 올바르게 동작하나, 외부 자판기와 통신 불가

Test Results – Category Partitioning

```
Test Case 36      (Key = 1.1.1.1.1.2.2.0.0.0.0.1.1.2.1.2.2.1.1.1.0.1.0.)
SelectMenu (User)      : PurchaseDrink
ShowMenuList (DVM)     : T
DrinkIDInput (User)    : 1~20
DrinkNumInput (User)   : 1~99
SelectedDrinkID (DVM)  : SelectedDrinkID
SelectedDrinkNum (DVM) : < drinkNum
SelectPrepay (User)    : N
RequestPayment (DVM)   : F
CardNum (User)         : <n/a>
ValidateCardInfo (Bank): <n/a>
InquireCardBalance (Bank): <n/a>
PaymentInfo (Bank)    : <n/a>
SearchAltDVM (DVM)    : T
StockID (AltDVM)       : RequestedDrinkID
AltDVMStockNum (AltDVM): < drinkNum
AltDVMLocation (AltDVM): (0~99, 0~99)
AltDVMPrepayAvail (AltDVM): F
GenerateAuthCode (DVM) : F
ReqDrinkID (AltDVM)    : RequestedDrinkID
ReqDrinkNum (AltDVM)   : RequestedDrinkNum
PrepayAvail (DVM)      : >= requestedDrinkNum
AuthCodeInfo (AltDVM)  : Y
InputAuthCode (User)   : <n/a>
UpdateStock (DVM)      : T
ProvideDrink (DVM)     : <n/a>
```

36. Fail

사용자가 선결제를 거부하는 경우 결제가 진행되지 않는 것까지는 올바르게 동작하나, 외부 자판기와 통신 불가

```
Test Case 37      (Key = 1.1.1.1.1.2.2.0.0.0.0.1.1.2.1.2.2.1.1.2.0.0.0.)
SelectMenu (User)      : PurchaseDrink
ShowMenuList (DVM)     : T
DrinkIDInput (User)    : 1~20
DrinkNumInput (User)   : 1~99
SelectedDrinkID (DVM)  : SelectedDrinkID
SelectedDrinkNum (DVM) : < drinkNum
SelectPrepay (User)    : N
RequestPayment (DVM)   : F
CardNum (User)         : <n/a>
ValidateCardInfo (Bank): <n/a>
InquireCardBalance (Bank): <n/a>
PaymentInfo (Bank)    : <n/a>
SearchAltDVM (DVM)    : T
StockID (AltDVM)       : RequestedDrinkID
AltDVMStockNum (AltDVM): < drinkNum
AltDVMLocation (AltDVM): (0~99, 0~99)
AltDVMPrepayAvail (AltDVM): F
GenerateAuthCode (DVM) : F
ReqDrinkID (AltDVM)    : RequestedDrinkID
ReqDrinkNum (AltDVM)   : RequestedDrinkNum
PrepayAvail (DVM)      : < requestedDrinkNum
AuthCodeInfo (AltDVM)  : N
InputAuthCode (User)   : <n/a>
UpdateStock (DVM)      : <n/a>
ProvideDrink (DVM)     : <n/a>
```

37. Fail

사용자가 선결제를 거부하는 경우 결제가 진행되지 않는 것까지는 올바르게 동작하나, 외부 자판기와 통신 불가

Test Results – Category Partitioning

```
Test Case 38      (Key = 2.2.0.0.0.0.0.0.0.0.0.0.0.0.2.1.1.1.1.1.1.)
SelectMenu (User)      : InputAuthCode
ShowMenuList (DVM)     : F
DrinkIDInput (User)    : <n/a>
DrinkNumInput (User)   : <n/a>
SelectedDrinkID (DVM)  : <n/a>
SelectedDrinkNum (DVM) : <n/a>
SelectPrepay (User)    : <n/a>
RequestPayment (DVM)   : <n/a>
CardNum (User)         : <n/a>
ValidateCardInfo (Bank): <n/a>
InquireCardBalance (Bank): <n/a>
PaymentInfo (Bank)     : <n/a>
SearchAltDVM (DVM)     : <n/a>
StockID (AltDVM)       : <n/a>
AltDVMStockNum (AltDVM): <n/a>
AltDVMLocation (AltDVM): <n/a>
AltDVMPrepayAvail (AltDVM): <n/a>
GenerateAuthCode (DVM) : F
ReqDrinkID (AltDVM)    : RequestedDrinkID
ReqDrinkNum (AltDVM)   : RequestedDrinkNum
PrepayAvail (DVM)      : >= requestedDrinkNum
AuthCodeInfo (AltDVM)  : Y
InputAuthCode (User)   : Valid
UpdateStock (DVM)      : T
ProvideDrink (DVM)     : T
```

38. Fail

인증코드를 통해 음료를 얻고자 할 때 유효한 인증코드를 입력하면 음료를 올바르게 제공하나, 외부 자판기와 통신 불가

```
Test Case 39      (Key = 2.2.0.0.0.0.0.0.0.0.0.0.0.0.2.1.1.1.1.2.1.2.)
SelectMenu (User)      : InputAuthCode
ShowMenuList (DVM)     : F
DrinkIDInput (User)    : <n/a>
DrinkNumInput (User)   : <n/a>
SelectedDrinkID (DVM)  : <n/a>
SelectedDrinkNum (DVM) : <n/a>
SelectPrepay (User)    : <n/a>
RequestPayment (DVM)   : <n/a>
CardNum (User)         : <n/a>
ValidateCardInfo (Bank): <n/a>
InquireCardBalance (Bank): <n/a>
PaymentInfo (Bank)     : <n/a>
SearchAltDVM (DVM)     : <n/a>
StockID (AltDVM)       : <n/a>
AltDVMStockNum (AltDVM): <n/a>
AltDVMLocation (AltDVM): <n/a>
AltDVMPrepayAvail (AltDVM): <n/a>
GenerateAuthCode (DVM) : F
ReqDrinkID (AltDVM)    : RequestedDrinkID
ReqDrinkNum (AltDVM)   : RequestedDrinkNum
PrepayAvail (DVM)      : >= requestedDrinkNum
AuthCodeInfo (AltDVM)  : Y
InputAuthCode (User)   : Invalid
UpdateStock (DVM)      : T
ProvideDrink (DVM)     : F
```

39. Fail

인증코드를 통해 음료를 얻고자 할 때 유효하지 않은 인증코드를 입력하면 음료를 제공하지 않는 것까지는 정상적으로 동작하나, 외부 자판기와 통신 불가

Test Results – Category Partitioning

```
Test Case 40      (Key = 2.2.0.0.0.0.0.0.0.0.0.0.0.0.0.0.2.1.1.2.2.0.2.)
SelectMenu (User)      : InputAuthCode
ShowMenuList (DVM)     : F
DrinkIDInput (User)    : <n/a>
DrinkNumInput (User)   : <n/a>
SelectedDrinkID (DVM)  : <n/a>
SelectedDrinkNum (DVM) : <n/a>
SelectPrepay (User)    : <n/a>
RequestPayment (DVM)   : <n/a>
CardNum (User)         : <n/a>
ValidateCardInfo (Bank): <n/a>
InquireCardBalance (Bank): <n/a>
PaymentInfo (Bank)     : <n/a>
SearchAltDVM (DVM)    : <n/a>
StockID (AltDVM)       : <n/a>
AltDVMStockNum (AltDVM): <n/a>
AltDVMLocation (AltDVM): <n/a>
AltDVMPrepayAvail (AltDVM): <n/a>
GenerateAuthCode (DVM) : F
ReqDrinkID (AltDVM)    : RequestedDrinkID
ReqDrinkNum (AltDVM)   : RequestedDrinkNum
PrepayAvail (DVM)      : < requestedDrinkNum
AuthCodeInfo (AltDVM)  : N
InputAuthCode (User)   : Invalid
UpdateStock (DVM)      : <n/a>
ProvideDrink (DVM)     : F
```

40. Fail

인증코드를 통해 음료를 얻고자 할 때 유효하지 않은 인증코드를 입력하면 음료를 제공하지 않는 것까지는 정상적으로 동작하나, 외부 자판기와 통신 불가

Category Partitioning Test Results

Total: 40개

Pass: 1개

Fail: 39개

Pass rate: $1/40 = 2.5\%$

Test Cases – Brute Force Testing

Use Case	Test Case	Test Result
Display Drink	보유중인 음료수의 종류를 출력되는가?	PASS
	20개중 7 종류의 음료를 취급하는가?	Fail
	음료 코드가 01~20 범위 내에서 사용되는가?	PASS
	각 음료의 최대 재고가 99개인가?	Fail
Purchase Drink	카드 결제로 음료수가 구매되는가?	PASS
	유효하지 않는 카드로 결제시 거부되는가?	PASS
	잔액이 부족하면 결제가 취소되는가?	PASS
	음료수를 구매하고 난 뒤, 개수가 올바르게 차감되는가?	PASS
Stock Broadcast	다른 자판기의 재고를 확인할 수 있는가?	Fail
	가장 가까운 자판기의 위치를 정확히 안내하는가?	Fail
	동일 거리의 자판기 2대 중 ID가 작은 자판기를 우선 안내하는가?	Fail
Communication Protocol	자판기 간 메시지가 JSON 형식을 따르는가?	Fail
	req_stock, resp_stock 메시지가 정상 작동하는가?	Fail
	req_prepay, resp_prepay 메시지가 정상 작동하는가?	Fail

Test Results – Brute Force Testing

Use Case	Test Case	Test Result
Prepayment	현재 자판기에 재고가 없는 음료에 한하여 선결제를 할 수 있는가?	Fail
	인증코드는 매번 다른 5자리의 랜덤 문자열로 생성되는가?	Fail
	선결제된 음료는 다른 사용자에게 판매되지 않는가?	Fail
	선결제 완료 시 인증코드와 자판기 위치가 사용자에게 안내되는가?	Fail
	선결제 후 지정된 자판기에서 인증코드를 입력해 음료 수령이 가능한가?	Fail
	유효하지 않는 인증코드를 입력한 경우 거부되는가?	Fail
	다른 모든 자판기의 재고가 없다면 선결제가 취소되는가?	Fail

Total: 21개

Pass: 6개

Fail: 15개

Pass rate: $6/21 = \text{약 } 28.6\%$