

Read
Write
Commit
Roll back

ATM card insert

select option : withdraw - deposit
Saving —

Pin

Amount → select option

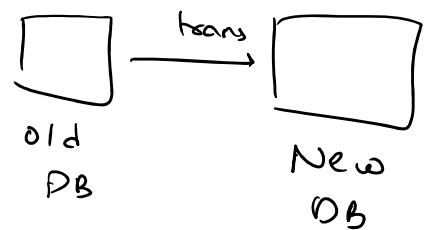
check your account → Roll back
Yes

amount deducted

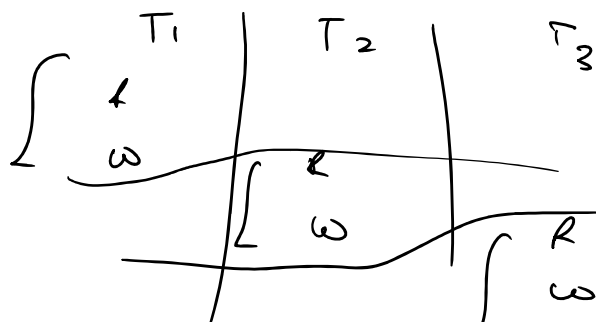
withdraw cash → Roll back
No
Yes → success
Done

Transaction properties

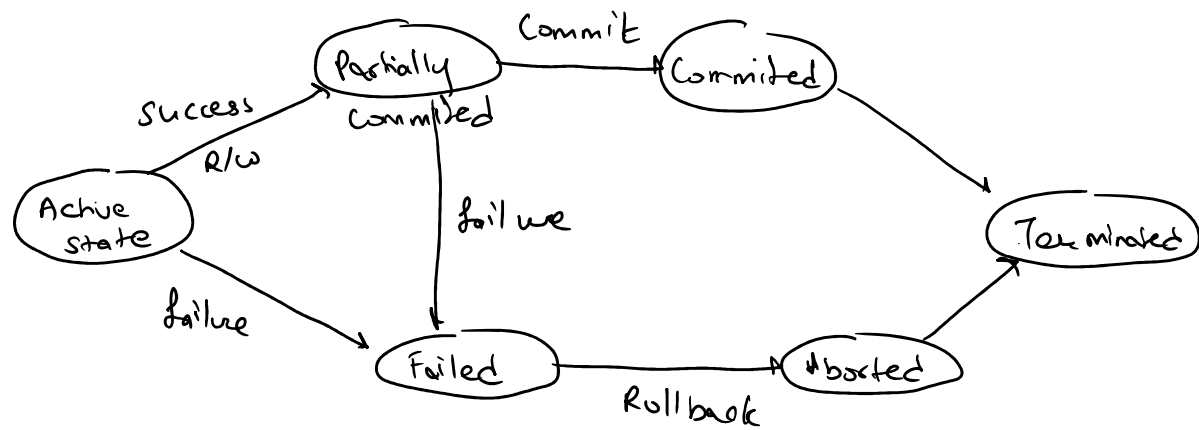
A : Atomicity
C : Consistency
I : Isolation
D : Durability



T ₁	T ₂	T ₃
R	R	R
W	W	W



Transaction states



Transaction

ATM → Card insert

select language
Withdrawal / deposit

Saving / _____

operations of transaction

Read
Write
Commit
Rollback

Amount
pin

check bank account bill fail
pass

Deduct
Cash window No
yes Rollback
 Success

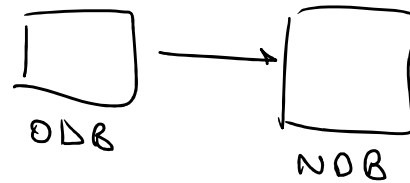
Transaction Properties

A → Atomicity

C → Consistency

I → Isolation

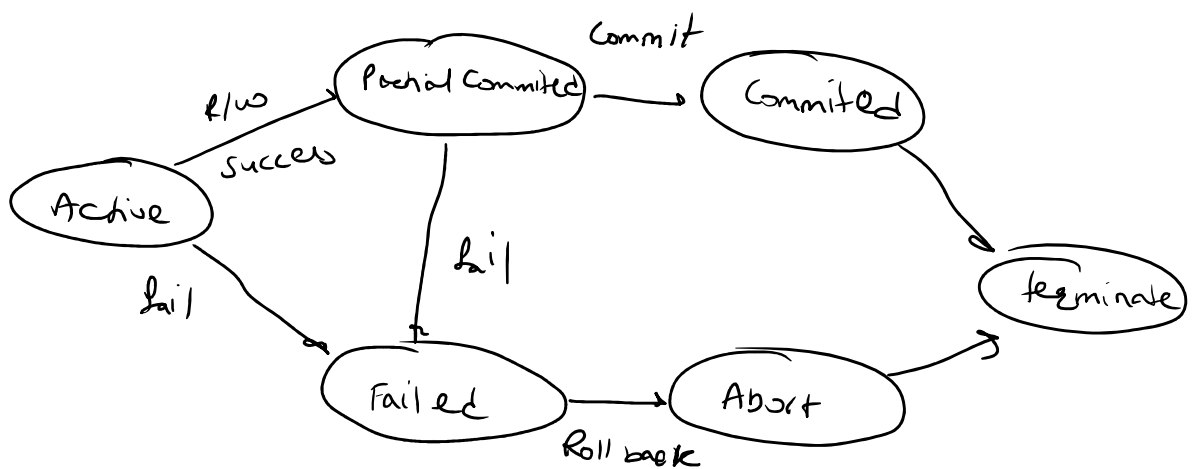
D → Durability



T ₁	T ₂	T ₃
R		R
	R	
W	W	W

T ₁	T ₂	T ₂
R		
W		
	R	
	W	
		R
		W

Transaction States



Transactions

Transactions

Transaction operations

Read

write

commit

roll back

Card insert

Pin

language / (withdrawal deposit) / saving .. -

Amount

Check Amount ^{no} → Fail

↓ yes

Deduct

↓

Cash ^{no} →

Roll back → Terminate

↓ yes

Success

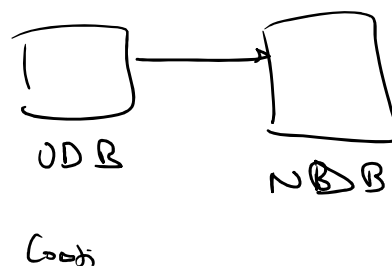
Properties of Transaction

A → Atomicity

C → Consistency

I → Isolation

D → Durability



T ₁	T ₂	T ₃
R	R	R
W		
	W	

T ₁	T ₂	T ₃
R		
W		
	R	
	W	
		R
		W

| w |
w

| f |
w

Transaction States

