ATM
(State Design + Chain of Responsibility)

⇒ Flow Diagram

User — Idle ATM — *Insert Card* → ATM Has Card → Authenticate Pin → Operation option → Prefer operation → Idle ATM

Prefer operation
{
Cash deposit
Cash withdraw
Pin change
Check Balance
}
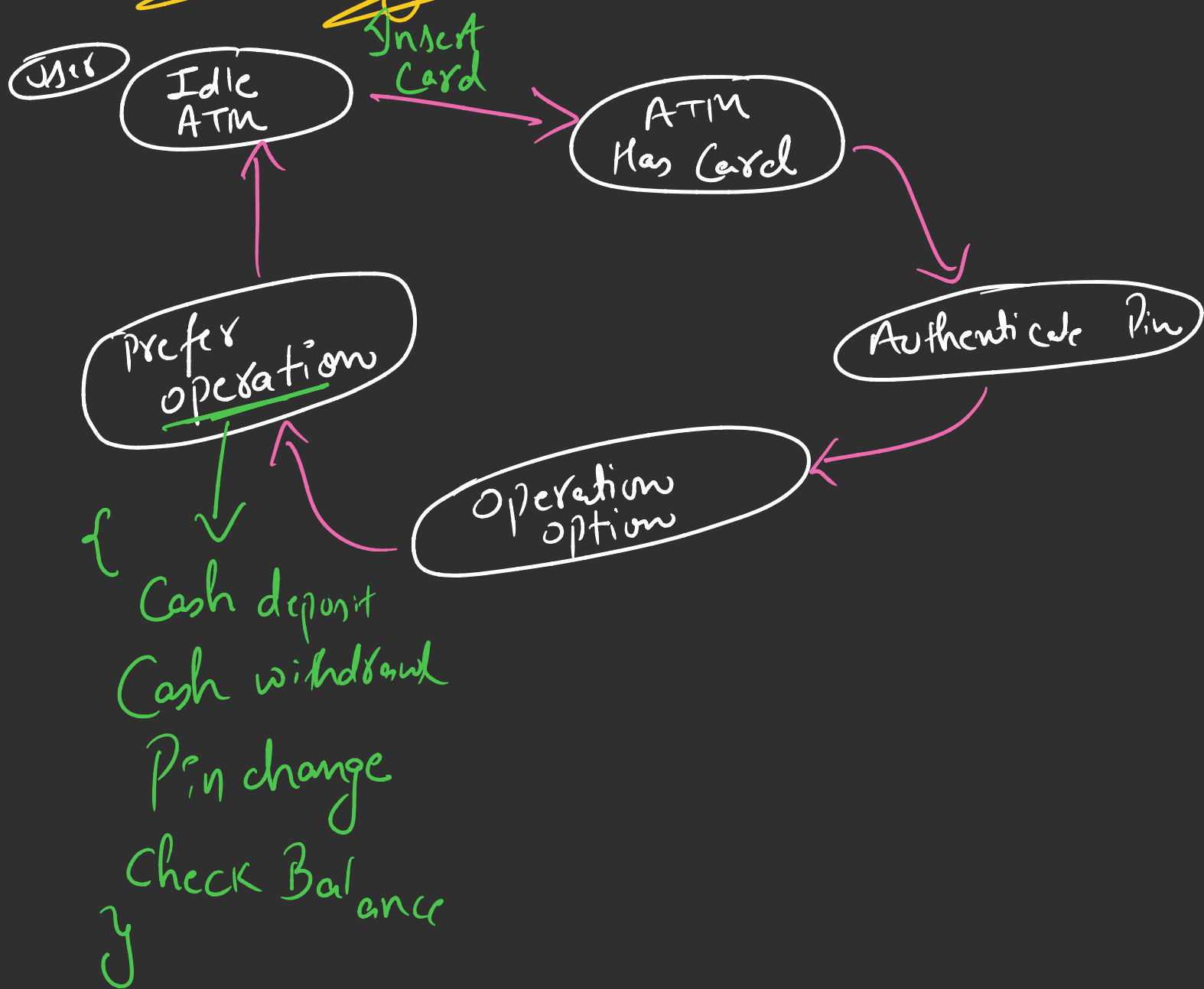
State	Operation
① Idle State	Insert Card ()
② Has Card	Authenticate Pin ()
③ Selection State	Select operation

i) we have multiple States Involved in the Scope thus ⟹ [State Design Pattern]

[Request] →3000→ | 2K (1) | →1000→ | 500 (1) | →500→ | 100 / 100 |

withdrawl Amt (3K)

₹2000 (0)   ₹500 (0)   ₹500 (5)
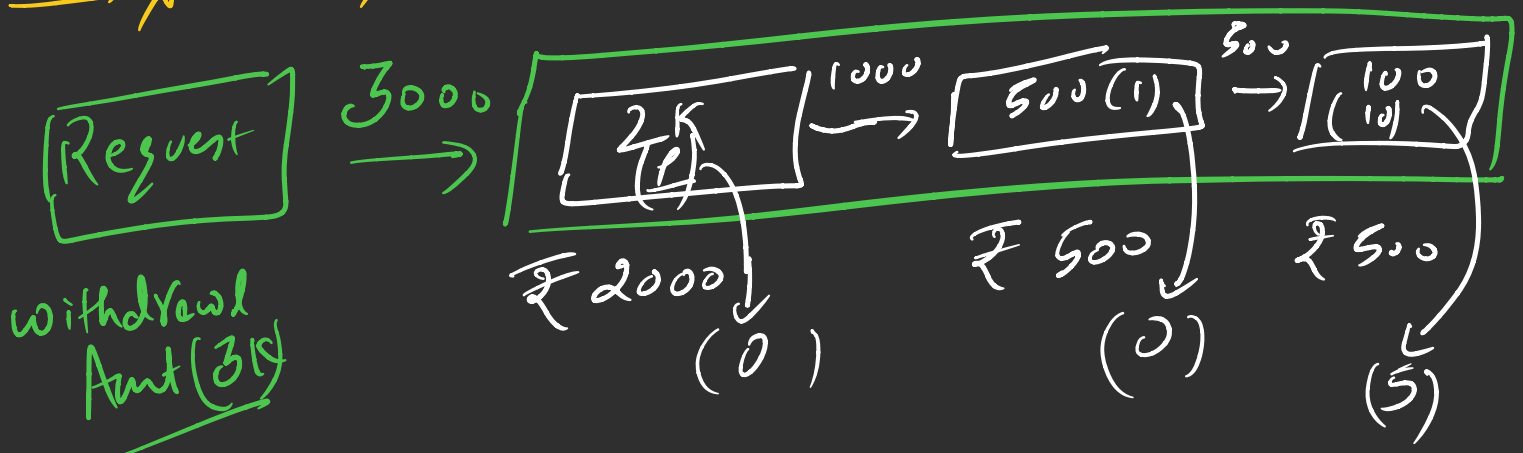
ii) If we have to handle the withdrawn operation of an ATM, like this, thus we need the ⟹ [CHAIN OF Responsibility Design Pattern]

=> UML Diagram :

[ATM]

Atm state

[Idle]
InserT Card();

NoCard
authenticate card();
exit
return Card();

[Has Card]
select option();
exit
return Card();

[Select operation]
Cash withdrawl
exit
return Card();

[ATM State]
inserT Card()
<>

[Cash withdrawl]
display balance();
exit();
return Card();

[Check Balan]

[Card]
CVV
exp
Bank

[USER]
Card obj
Bank Acc obj

User obj
ATM obj

[ATM Room]

[Bank Acc]
Balance ()
Update Balance()

[Cash withdrawl process]

Cash withdrawl process

2K withdraw

500 withdraw

100 withdraw