Design patterns

1- Immutable Pattern

-Description : The Immutable Design Pattern is a creational pattern used to create objects whose state cannot be changed after they are created. It helps ensure data consistency, thread safety, and prevents unintended side effects by making the object read-only once it's initialized.

-Problem: In our system, we have a Ticket class. Once a ticket is created, we want to ensure that its attributes (such as source, destination, and ticket ID) cannot be modified. This is important because the system provides a cancellation option — if a user wants to change their travel details, they should cancel the existing ticket and create a new one with updated information, rather than modifying the existing

-Solution: After applying the Immutable Design Pattern, every object created from the Ticket class becomes unchangeable after its creation. This ensures that ticket data remains consistent . The updated design aligns perfectly with the system’s requirements, where a user is expected to cancel an existing ticket and create a new one if they wish to make changes.