1. **Blockchain Platform Comparison**

Feature	Ethereum	Hyperledger Fabric	R3 Corda
Blockchain Name	Ethereum	Hyperledger Fabric	R3 Corda
Type	Public	Private	Consortium
Consensus Mechanism	Proof-of-Stake(PoS)	Pluggable	Transaction-level validation with Notaries
Permission Model	Permissionless (Open)	Permissioned	Permissioned
Speed / Throughput	~15-30 TPS (Layer1)	High (Potentially 3000 + TPS)	High (Potentially 100s-1000s TPS)
Smart Contract Support	Y - Solidity, Vyper	Y - “Chaincode” in Go, Java, JS	Y - “CorDapps” in Java, Kotlin
Token Support	Native (ETH) & Token Standards	Not Native; implemented via chaincode	Not Native; implemented via CorDapps
Typical Use Case	Defi, NFTs, dApps, Public Registries	Supply Chain, Identity Management, B2B	Inter-bank Settlement, Trade Finance, Insurance
Notable Technical Feature	Ethereum Virtual Machine (EVM) standard; large decentralized ecosystem	Private data “channels” for confidential transactions between a subset of members	Point-to-point data sharing (not broadcast); transaction finality via Notaries

2. **Short Report**

The three platforms represent fundamentally different approaches to distributed ledger technology. **Ethereum** is a permissionless public network, optimized for transparency and censorship resistance. Its strength lies in the Ethereum Virtual Machine (EVM) and its native token (ETH), which powers a vast ecosystem of public decentralized applications (dApps). However, its throughput is comparatively low.

In contrast, **Hyperledger Fabric and R3 Corda** are permissioned enterprise platforms designed for privacy and performance. Fabric uses a modular

architecture with private "channels" that allow subsets of participants to transact confidentially, making it highly suitable for complex business networks. Corda takes privacy further by sharing transaction data only on a need-to-know basis, avoiding a global broadcast altogether. Its unique consensus model, using Notaries to prevent double-spending, is tailored for regulated industries like finance.

Platform Choices:

- **A decentralized app?**
    - **Choice: Ethereum**
    - **Justification:** Its permissionless model allows anyone to join, its native token (ETH) provides a built-in economic incentive layer, and its massive user base and developer community offer unparalleled network effects for a public-facing application.
- **A supply chain network among known partners?**
    - **Choice: Hyperledger Fabric**
    - **Justification:** Its permissioned nature ensures only known partners can participate. The "channels" feature is technically ideal for supply chains, as it allows, for example, a buyer and seller to keep their pricing confidential while still sharing shipment status with a logistics provider on a separate channel.
- **An inter-bank financial application?**
    - **Choice: R3 Corda**
    - **Justification:** Corda was designed specifically for this. Its point-to-point communication model ensures that sensitive financial transaction details are only shared between the involved banks, meeting strict regulatory and privacy requirements. The Notary system provides a clear mechanism for settlement finality, which is critical in finance.