Centurion University
Shaping Lives... Empowering Communities...

School: ..... Campus: .....

Academic Year: ..... Subject Name: ..... Subject Code: .....

Semester: ..... Program: ..... Branch: ..... Specialization: .....

Date: .....

Applied and Action Learning

(Learning by Doing and Discovery)

Name of the Experiement : Chains Beyond Ethereum – Platform Comparisons

* Coding Phase: Pseudo Code / Flow Chart / Algorithm

ALGORITHM:

1.Start
2.Research and identify popular blockchain platforms apart from Ethereum.
3.Choose at least three platforms (e.g., Solana, Polygon, Avalanche).
4.Visit their official documentation websites.
5.Analyze key technical aspects — consensus mechanism, transaction speed, programming language, and interoperability.
6.Compare each platform with Ethereum in terms of scalability, gas fees, and ecosystem support.
7.Record findings in a tabular format.
8.Conclude which platforms are most suited for specific use cases.
9.End

* Software used

1.Brave Browser
2.Official blockchain documentation sites
3.Remix IDE
4.MetaMask wallet

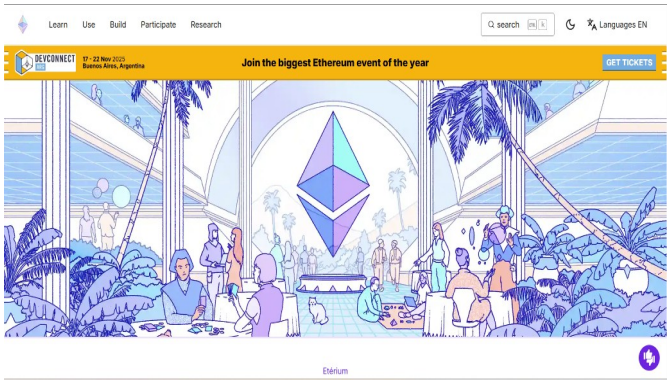
*As applicable according to the experiment.
Two sheets per experiment (10-20) to be used.

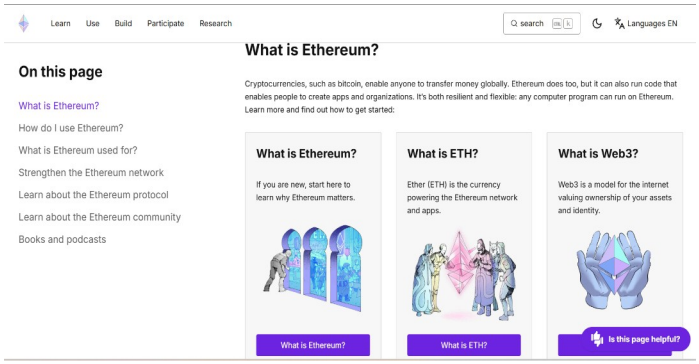
* Testing Phase: Compilation of Code (error detection)

Explore Ethereum:

Visit https://ethereum.org

Note features like EVM support, Solidity language, Proof of Stake,and average transaction speed (12–15 seconds).

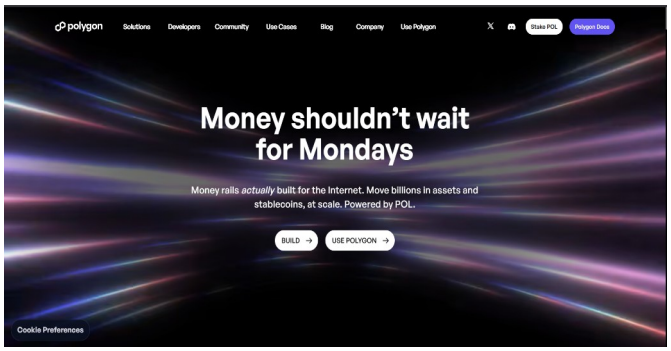


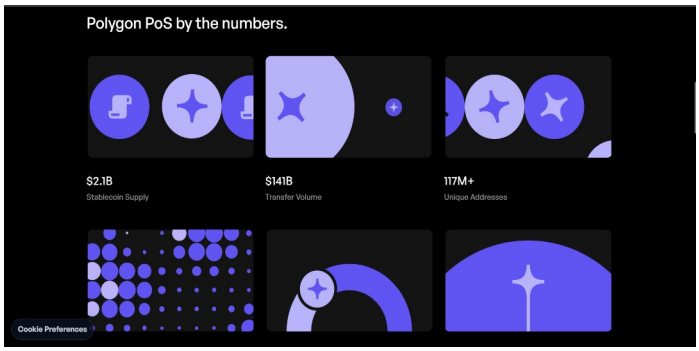


Explore Polygon (Matic):

Visit https://polygon.technology

Identify how Polygon acts as a Layer 2 scaling solution for Ethereum with low fees and fast confirmations.

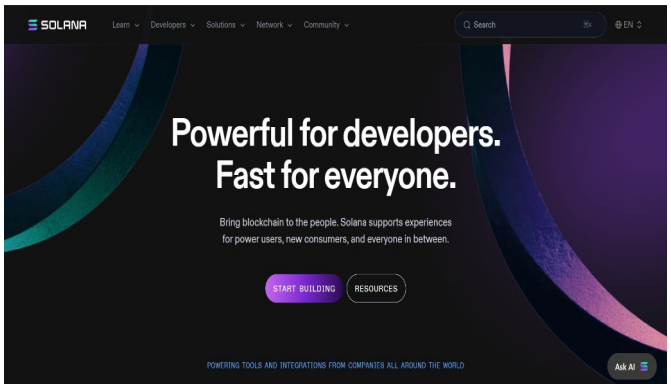


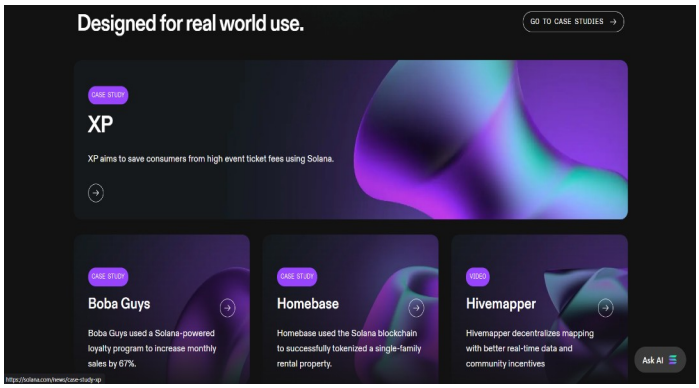


Explore Solana:

Visit https://solana.com

Learn about Proof of History (PoH) and Rust-based programming, achieving high throughput (65,000 TPS).





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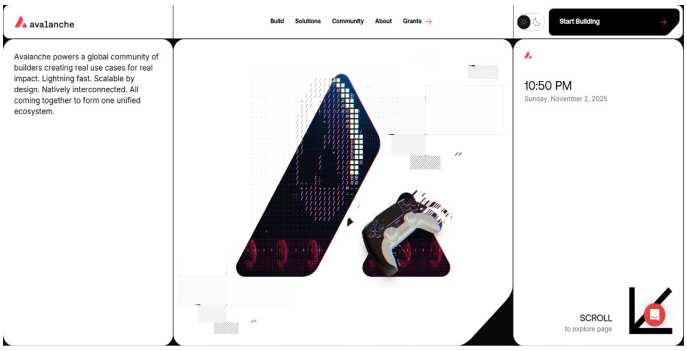
* Testing Phase: Compilation of Code (error detection)

Explore Avalanche:

Visit https://avax.network

Understand subnets, Snowman consensus, and Ethereum compatibility via C-Chain.



Compare All Platforms:

Create a table comparing Ethereum with Polygon, Solana, and Avalanche based on:

- Consensus Type
- Speed (TPS)
- Gas Fees
- Smart Contract Language
- Interoperability
- Ecosystem

*As applicable according to the experiment.
Two sheets per experiment (10-20) to be used.

* Implementation Phase: Final Output (no error)

Result Table:

Feature / Platform	Ethereum	Polygon (Matic)	Solana	Avalanche
Consensus	Proof of Stake	Proof of Stake (Layer 2)	Proof of History + PoS	Avalanche Consensus
Speed (TPS)	15-30	7,000+	65,000+	4,500+
Gas Fees	High	Very Low	Very Low	Low
Smart Contract Language	Solidity	Solidity	Rust	Solidity
Interoperability	EVM-based	EVM-compatible	Non-EVM	EVM-compatible
Ecosystem	Mature	Expanding	Fast-growing	Fast-growing

* Observations

1.Identified key differences between Ethereum and newer blockchain platforms.

2.Learned how consensus mechanisms and scalability impact DApp performance and cost.

ASSESSMENT

Rubrics	Full Mark	Marks Obtained	Remarks
Concept	10		
Planning and Execution/ Practical Simulation/ Programming	10		
Result and Interpretation	10		
Record of Applied and Action Learning	10		
Viva	10		
Total	**50**		

Signature of the Student:

Name :

Regn. No. :

Signature of the Faculty:

**As applicable according to the experiment.*
Two sheets per experiment (10-20) to be used.