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 : Crypto Timeline – Evolution of Digital Currencies

Objective/Aim:

To study the chronological evolution of digital currencies, understand how cryptocurrencies like Bitcoin and Ethereum emerged, and analyze the technological advancements that shaped the blockchain ecosystem..

Apparatus/Software Used:

- Web Browser (for timeline exploration)
- Online resources such as:
  - https://bitcoin.org
  - https://ethereum.org
  - https://coinmarketcap.com/alexandria
- Canva / PowerPoint (for visual timeline creation)

Theory/Concept:

Digital currency is the evolution of money from physical form to decentralized cryptographic assets. The concept evolved over decades of innovation in computer science, cryptography, and distributed systems.

Key Milestones in the Crypto Timeline:

Year	Event / Milestone	Description
1983	**eCash (David Chaum)**	Introduced idea of anonymous digital money using cryptography.
1997	**Hashcash**	Proposed by Adam Back — used proof-of-work for spam prevention (later used in Bitcoin).
2008	**Bitcoin Whitepaper**	Published by *Satoshi Nakamoto*: “Bitcoin: A Peer-to-Peer Electronic Cash System.”
2009	**Bitcoin Launch**	Genesis block mined; first decentralized cryptocurrency goes live.
2011–2013	**Altcoins Emerged**	Litecoin, Ripple, and others appeared to improve speed and efficiency.
2015	**Ethereum Launched**	Introduced smart contracts, enabling decentralized applications (DApps).
2017	**ICO Boom**	Projects used Initial Coin Offerings for decentralized fundraising.
2020	**DeFi & NFTs Rise**	Decentralized Finance (DeFi) and Non-Fungible Tokens (NFTs) gained popularity.
2021	**Mainstream Adoption**	Bitcoin hit all-time highs; companies like Tesla and El Salvador accepted it.
2023–2025	**Web3 Expansion**	Layer-2 scaling, cross-chain bridges, and regulatory evolution.

Coding Phase / Algorithm (for timeline visualization):

Algorithm to Plot Crypto Evolution (Conceptual):

1. **Start**
2. Initialize a timeline array with (year, event, description) tuples.
3. Sort events in chronological order.
4. Display each event with a marker or node on a timeline chart.
5. Optionally use a library (like Chart.js / Plotly) for visualization.
6. **End**

Example Pseudo Code:

```
timeline = [
  (1983, "eCash", "Anonymous digital money concept"),
  (2008, "Bitcoin Whitepaper", "Satoshi introduces Bitcoin"),
  (2015, "Ethereum", "Smart contracts introduced")
]

for event in timeline:
    print(event.year, "-", event.title, ":", event.description)
```

Implementation Phase (Visualization / Output):

- Created a visual timeline (using Canva / PowerPoint) showing the progression from eCash → Bitcoin → Ethereum → Web3.
- Each milestone includes the year, key innovation, and technological impact.
- Verified historical accuracy from multiple blockchain educational sources. do this if you can or give me step by step process

	A	B	C
1	Year	Milestone	
2	1983	eCash	
3	1997	Hashcash	
4	2008	Bitcoin	
5	2009	Bitcoin	
6	2011	Altcoins	
7	2015	Ethereum	
8	2017	ICO	
9	2020	DeFi &	
10	2021	Mainstre	
11	2023	Scaling &	
12	2025	Web3	
13			

Observation Table:

- Bitcoin introduced **Proof-of-Work** and solved the **double-spending problem** without a central authority.
- Ethereum introduced **smart contracts**, marking the beginning of programmable blockchain.
- DeFi and NFTs demonstrated blockchain's real-world utility beyond currency.
- Ongoing developments (Layer-2, interoperability) show blockchain's evolution toward scalability and usability.

Applications:

- Understanding technological evolution helps identify future crypto trends.
- Useful in blockchain research, DeFi project development, and regulatory analysis.
- Educational timelines support learning of key blockchain concepts and milestone

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: