



Centurion
UNIVERSITY
*Shaping Lives,
Empowering Communities...*

School: Campus:

Academic Year: Subject Name: Subject Code:

Semester: Program: Branch: Specialization:

Date:

Classroom Learning

(Learning by Listening and Observations)

Name of the Topic: Stable Coin

Learning Outcome:

Concepts learned (Mention 2/3 principles):

Based on the classwork, the principal concepts I have learned include:

1. The fundamental concept of a stablecoin as a type of cryptocurrency designed to maintain a stable value, typically pegged to a fiat currency like the US Dollar.
2. The complete architecture of the different types of stablecoins: fiat-collateralized, crypto-collateralized, and algorithmic, and their distinct mechanisms for maintaining the peg.
3. The characteristics that define a robust stablecoin, including transparency, redeemability, and the reliability of its collateral backing.

*** New techniques learned:**

Additionally, I have acquired new knowledge in the following areas:

1. Techniques for how fiat-collateralized stablecoins (like USDT, USDC) manage reserves and undergo regular audits to verify 1:1 backing.
2. Procedures for understanding over-collateralization in crypto-backed stablecoins (like DAI), where users lock up more crypto value than the stablecoin they mint to buffer against price volatility.
3. The process of how algorithmic stablecoins use smart contracts to automatically expand or contract the token supply in response to market demand to maintain the peg, without direct collateral backing.
4. Methods for analyzing the smart contracts of decentralized stablecoins to assess their security and the mechanisms that ensure solvency.

* Related Project/Practice work experienced and learned:

During the practice sessions of the lab work, I engaged in and developed proficiency with programs and simulations in the following areas:

1. Interacting with the MakerDAO protocol on a testnet to mint DAI by depositing Ethereum as collateral and understanding the concept of the Collateralization Ratio and Liquidation.
2. Writing a simple simulation of an algorithmic stablecoin's rebasing mechanism that increases or decreases the token supply in a user's wallet based on price deviation from the peg.
3. Analyzing the public reserve reports of major stablecoin issuers to assess their transparency and backing.
4. Using a DeFi lending platform like Aave on a testnet to deposit stablecoins and earn yield, demonstrating their primary use case.

* New Software/Machine/Tool/Equipment/Experiment learned:

During the lab session, I used **MetaMask** to interact with the **MakerDAO** dApp, **Etherscan** to examine the smart contracts of USDT and USDC, and **DeFiLlama** or similar analytics platforms to track the total value locked (TVL) in stablecoin-related protocols.

* Application of concept(s) (preferably real life scenario):

1. **Trading and Hedging:** Used as a safe haven on cryptocurrency exchanges to quickly exit volatile positions without converting back to fiat currency, reducing transaction costs and time.
2. **Remittances and Payments:** Facilitate fast, low-cost cross-border money transfers and daily payments without the volatility associated with other cryptocurrencies, making them suitable for salaries and bills.
3. **Decentralized Finance (DeFi):** Serve as the primary medium of exchange and unit of account within the DeFi ecosystem, used for lending, borrowing, and providing liquidity in trading pools

* Case Studies/Examples:

1. **Remittances in Developing Nations:** Migrant workers in the USA use stablecoins like USDC to send money to families in Latin America or Africa within minutes and with negligible fees, bypassing expensive traditional remittance services.
2. **DeFi Lending:** A user can deposit their volatile cryptocurrency as collateral to borrow stablecoins against it, using the borrowed funds for expenses without selling their underlying asset, which is a common practice in "real-world" DeFi usage.
3. **The TerraUSD (UST) Collapse:** The de-pegging and collapse of the algorithmic stablecoin UST served as a critical case study on the risks of stablecoins that rely on unsustainable algorithmic mechanisms and a native volatile token (LUNA) for backing

Assessment:

Marks Obtained: / 10

Signature of the Student:

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Signature of the Faculty:

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* As applicable according to the topic.
One sheet per topic (10-20) to be used.