Lesson 18 - DeFi

Projects overview

- The idea around DeFi
- Locked value
- Stablecoins, marketmakers and lending protocols
- Swaps and DEXs
- Assets and derivatives
- Payments
- Money flow

References

https://www.defipulse.com/

https://docs.makerdao.com/

https://docs.aave.com/hub/

https://uniswap.org/developers

https://curve.readthedocs.io/

https://docs.convexfinance.com/convexfinance/

https://docs.dydx.exchange/#general

https://docs.tornado.cash/general/readme

https://0xilluminati.com/all-content/where-is-the-money-coming-from

Flash swaps and flash loans

- Collateralized and unsecured loans
- Flash loans
- Flash loans attacks
- Flash swaps
- Multiple swap steps
- Gas fees

References

https://academy.binance.com/en/articles/what-are-flash-loans-in-defi

https://docs.aave.com/faq/flash-loans

https://coinmarketcap.com/alexandria/article/what-are-flash-loan-attacks

https://docs.uniswap.org/protocol/guides/flash-integrations/inheritance-constructors

https://medium.com/coinmonks/tutorial-of-flash-swaps-of-uniswap-v3-73c0c846b822

Implementing ERC20FlashMint

- EIP 3156 fo Flash loans
- Implementing ERC20FlashMint
- Loan fees
- Implementing IERC3156FlashLender and IERC3156FlashBorrower
- Running a flash loan
- Ensuring that the loan can be paid

References

https://eips.ethereum.org/EIPS/eip-3156

https://docs.openzeppelin.com/contracts/4.x/api/token/erc20#ERC20FlashMint

https://docs.openzeppelin.com/contracts/4.x/api/interfaces#IERC3156FlashLender

https://docs.openzeppelin.com/contracts/4.x/api/interfaces#IERC3156FlashBorrower

Homework

- Read the references
- Test some DeFi projects in testnet
- Try around with Flash Swaps and Flash Loans