

Lesson 9: Decentralized exchange

November, 2022

Agenda

- Uniswap v2
 - Curve
 - Homework
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Uniswap V3

There are two main ways to calculate an Uniswap price: the **mid price** and the **execution price**.

- The mid price reflects the ratio of reserves in one or more pairs. It can be a direct or indirect pair,
- The execution price reflect the ratio of assets sent/received in a trade;

The price impact is the difference between the mid-price and the execution price of a trade.

Curve

Curve pools can be split into three categories:

- **Plain pools** where two or more stablecoins are paired against one another.
- **Lending pools** where two or more wrapped tokens are paired against one another, while the underlying is lent out on some other protocol.
- **Metapools** where a stablecoin is paired against the LP token from another pool.

Every pool has the constant private attribute **N_COINS**, which is the number of coins in the pool.

Not sure N_COINS is the number of token in the pool or the number of token brands in the pool

Homework

Write an exchange smart contract that will allow to swap tokens on Uniswap and Curve in same transaction on predefined route.

Detailed technical requirements will be presented in google doc.