Ticks

Ticks are the fundamental unit of accounting within the dex. Each tick is an integer between 352437 and -352437. All tradeable liquidity, in the form of either PoolReserves or LimitOrderTranches is stored at a specific tick. The price of liquidity being stored at tick is determined by the function:

p (i) = 1.000 1 i p(i) = 1.0001^{i} p (i)

= 1.000 1 i Some examples:

- Price of tick0
- :
- 0:
- 0
- :
- p
- (
- 0
-)
- =
- 1.000
- 1
- 0
- =
- 1
- p(0) = 1.0001^0 = 1
- p
- (
- 0
-)
- =
- 1.000
- 1
- 0
- =
- 1
- Price of tick1
- 1
- 1
- :p
- (
- –
- 4000
-)
- =
- 1.000
- 1
- 4000
- ≈
- 1.4917
- p(-4000) = 1.0001^{4000} \approx 1.4917
- p
- (
- –
- 4000
-)
- =
- 1.000
- 1
- 4000
- ≈
- 1.4917
-
- Price of tick 2: p
- (
- –
- 4000
-)

- =
- 1.000
- 1
- –
- 4000
- ≈
- 0.6703
- p(-4000) = 1.0001^{-4000} \approx 0.6703
- p
- (
- –
- 4000
-)
- =
- 1.000
- 1
- –
- 4000
- ≈
- 0.6703

More specifically price refers to the rate at which Token1 can be converted to Token0. Logically, the converse rate for converting Token0 to Token1 can be expressed as:

p r i c e 0 T o 1 (i) = 1 / 1.000 1 i price0To1(i) = 1/1.0001^{i} p r i ce 0 T o 1 (i)

= 1/1.000 1 i Previous Liquidity Pools Next Tick Liquidity