

#### swap amount calculation

##### **calculate receiving UDT amount (giving ckb, opposite is same)**

input amount : input UDT amount that users will give to liquidity pool

input reserve : input UDT amount in liquidity pool

output reserve : output UDT amount in liquidity pool

output amount :  $\text{input amount} * 997 * \text{output reserve} / (\text{input reserve} * 1000 + \text{input amount} * 997)$

##### **calculate giving ckb amount (receiving ckb, opposite is same)**

output amount : output UDT amount that users will receive from liquidity pool

input reserve : input UDT amount in liquidity pool

output reserve : output UDT amount in liquidity pool

input amount :  $\text{input reserve} * \text{output amount} * 1000 / (\text{output reserve} - \text{output amount}) * 997 + 1$