基础知识类11-15

面试问答题（中英文）

基础知识类（11-15）

11、什么是检查效果（ check-effects ）模式?

What is check-effects pattern?

答:

检查效果（check-effects）模式是一种编程模式，用于确保函数在执行时不会对状态造成意外的影响。在这种模式下，函数应该只读取输入参数，并且不应该修改任何状态。如果函数需要修改状态，它应该返回一个包含所有修改的对象，而不是直接修改状态。这种模式可以帮助开发人员编写更安全、更可靠的代码，因为它可以减少由于状态修改而导致的错误。

Check-effects mode is a programming pattern that ensures that functions are executed without unintended effects on state. In this mode, the function should only read the input parameters and should not modify any state. If the function needs to modify the state, it should return an object containing all the modifications instead of modifying the state directly. This pattern helps developers write safer and more reliable code because it reduces the number of errors due to state modifications.

12、运行独立验证节点所需的最小以太数量是多少?

What is the minimum amount of Ether required to run a standalone validation node?

答:

在以太坊网络中，要运行一个独立的验证节点，需要至少 32 个以太币作为抵押品。这是因为在以太坊的 Proof of Stake（PoS）共识机制中，验证节点需要抵押一定数量的以太币来证明他们对网络的贡献，同时也会获得一定的奖励.

To run a standalone validation node in the Ethernet network, a minimum of 32 Ether is required as collateral. This is because in Ethernet's Proof of Stake (PoS) consensus mechanism, validation nodes need to collateralize a certain amount of Ether to prove their contribution to the network, and also receive a certain amount of rewards.

13、fallback 和 receive 之间有什么区别?

What is the difference between fallback and receive?

答:

fallback和receive都是特殊的回调函数，用于处理合约中不存在的函数调用和接收以太币。它们之间的区别在于，fallback函数会在调用合约不存在的函数时被触发，而receive函数只用于处理接收以太币。

Both fallback and receive are special callback functions for handling function calls and receiving Ether that do not exist in the contract. The difference between them is that the fallback function is triggered when a function that does not exist in the contract is called, while the receive function is only used to handle receiving Ether.

14、上海升级后，每个区块的 gas 限制是多少?

What is the gas limit per block after Shanghai upgrade?

答:

在以太坊上，每个区块的 gas limit 是由矿工决定的。在上海升级后，每个区块的 gas limit 已经从 15,000,000 增加到了 30,000,000。

On Ether, the gas limit of each block is determined by the miners. After the Shanghai upgrade, the gas limit per block has been increased from 15,000,000 to 30,000,000.

15、tx.origin 和 msg.sender 之间有什么区别?

What is the difference between tx.origin and msg.sender?

答:

tx.orgin是这笔交易的发起者，msg.sender是前一个调用发起者，如交易流程：张三发起交易-合约A-合约B，在合约B中msg.sender = 合约A，tx.orgin = 张三。

Tx.origin is the originator of the transaction and msg.sender is the previous call originator, e.g. transaction flow: Zhang San initiates the transaction - Contract A - Contract B, in Contract B msg.sender = Contract A , and tx.origin = the database.