

6

Basics VI: Cryptocurrency Fundamentals

Learn through code reading...

Examine the code below, learn about the new things in it.

```
contract Coin {
    // The keyword "public" makes variables
    // accessible from other contracts
    address public minter;
    mapping (address => uint) public balances;

    // Events allow clients to react to specific
    // contract changes you declare
    /* Event is an inheritable member of a contract. An event is emitted, it stores the arguments passed in transaction logs.
    These logs are stored on blockchain and are accessible using address of the contract till the contract is present on the blockcha
    event Sent(address from, address to, uint amount);

    // Constructor code is only run when the contract
    // is created
    constructor() {
        minter = msg.sender;
    }

    // Sends an amount of newly created coins to an address
    // Can only be called by the contract creator
    function mint(address receiver, uint amount) public {
        require(msg.sender == minter);
        balances[receiver] += amount;
    }

    // Errors allow you to provide information about
    // why an operation failed. They are returned
    // to the caller of the function.
    error InsufficientBalance(uint requested, uint available);

    // Sends an amount of existing coins
    // from any caller to an address
    function send(address receiver, uint amount) public {
        if (amount > balances[msg.sender])
            revert InsufficientBalance({
                requested: amount,
                available: balances[msg.sender]
            });

        balances[msg.sender] -= amount;
        balances[receiver] += amount;
        emit Sent(msg.sender, receiver, amount);
    }
}
```

Time to Create Your Own Crypto Token

Some initial resources:

ERC-20 Token Standard | ethereum.org

Ethereum is a global, decentralized platform for money and new kinds of applications. On Ethereum, you can write code that controls money, and build applications accessible anywhere in the world.

<https://ethereum.org/en/developers/docs/standards/tokens/erc-20/>



How to create and deploy an ERC-20 token on the Ethereum blockchain - LogRocket Blog

Blockchain is taking over the world. Bitcoin, the most popular virtual currency right now, is a product of blockchain technology. Ethereum is a byproduct of blockchain. It came into existence following the surge of Bitcoin.

<https://blog.logrocket.com/create-deploy-erc-20-token-ethereum-blockchain/>

