

Blockchain for Industrial Engineers: Decentralized Application Development

**บล็อกเชนสำหรับวิศวกรอุตสาหกรรม: การพัฒนาแอปพลิเคชันแบบ
กระจายศูนย์**

Function

```
function retrieve() public view returns (uint256){  
    return number;  
}
```

- Function name `retrieve`
- Function type `public view`
- Return type `returns (uint256)`

Function type

Choose one

Type	Description
public	Anyone can call this function.
private	Only this contract can call this function

Function type

Type	Description
view	This function returns data and does not modify the contract's data.
pure	This function does not read or modify the contract's data.
payable	When someone call this function, they might send ether along.

Getter function

- A function that returns a value.
- Use keywords `view`.
- Automatically created for public state variable.

Setter function

- A function that modifies the value of a variable
 - Modifies the state of the contract.

Invoking a function

- Calling a function
- Sending a transaction (to a function)

Calling a function

- Local invocation of a contract function
 - Does not broadcast or publish anything on the blockchain.
- It is a read-only operation
 - Will not consume any Ether.
- It is synchronous.
 - Return value immediately.
- Marked with `view`, `pure`.

Source

Sending a transaction to a function

- A transaction is broadcasted to the network, processed by miners, and if valid, is published on the blockchain.
- It is a write-operation
 - Update the state of the blockchain.
 - Consume Ether.
- It is asynchronous.
 - Takes time to execute.
 - Immediately return transaction's hash.

Constructor

- A function that is executed only once when the contract is deployed on the Ethereum blockchain.
- No need to use `public` keyword.