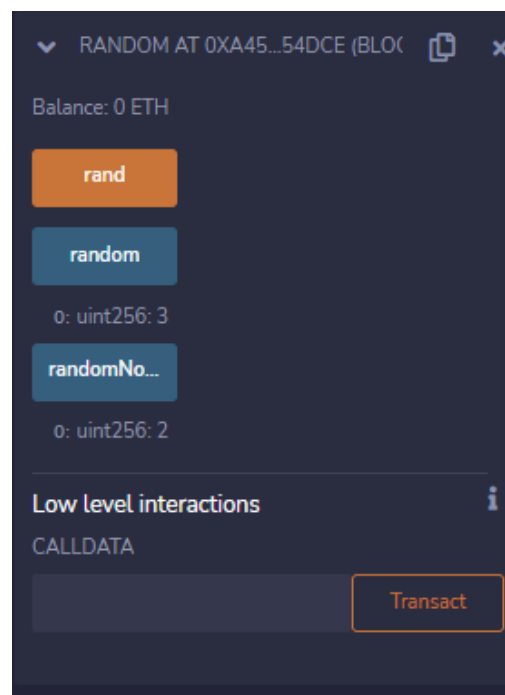


# day69-sol-random

≡ 태그	
📅 날짜	@2023년 1월 5일

```
// SPDX-License-Identifier: GPL-3.0
pragma solidity >=0.8.0 <0.9.0;

contract Random{
    uint public randomNonce = 0;
    uint256 public random = 0;
    // 솔리디티 랜덤한 수를 생성할 때 해시함수를 사용해서 난수를 만들게 된다.
    // keccak256 SHA256의 해시를 생성
    function rand() public {
        random = uint(keccak256(abi.encodePacked(block.timestamp, msg.sender, randomNonce)))%10; //0~9
        randomNonce++;
    }
}
```



rand를 트랜잭션할 때마다 랜덤값이 생성된다.

```
// SPDX-License-Identifier: GPL-3.0
pragma solidity >=0.8.0 <0.9.0;

contract Unit{
    event UnitName(string name);

    function work() public virtual {
        emit UnitName("marine");
    }
}

contract UnitInfo is Unit{
    event InfoName(string name);
    function work() public override {
        // emit UnitName("marine");

        //super 를 사용해서 부모값을 가져올 수 있다.
        super.work();
        emit InfoName("steampack");
    }
}
```

```
logs [
  {
    "from": "0x25dcE10d12672F6E4Ff7179e54D59cD4F0A574F8",
    "topic": "0x8d4626fa8beb4620604odo29d8bd1b2740d03fee58578da7c54e8e69ba892e70",
    "event": "UnitName",
    "args": {
      "0": "marine",
      "name": "marine"
    }
  },
  {
    "from": "0x25dcE10d12672F6E4Ff7179e54D59cD4F0A574F8",
    "topic": "0x0b4odd4121ofdd2188o702485f27557d23f12291978f092def8o75e272oba8o7",
    "event": "InfoName",
    "args": {
      "0": "steampack",
      "name": "steampack"
    }
  }
]
```

## code20.sol

```
// SPDX-License-Identifier: GPL-3.0
pragma solidity >=0.8.0 <0.9.0;

contract Marine{
    event MarineName(string name);

    function Info() public virtual{
        emit MarineName("Marine");
    }
}

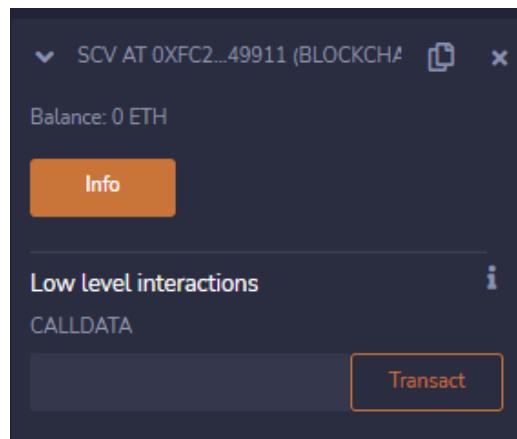
contract Medic{
    event MedicName(string name);
```

```

    function Info() public virtual{
        emit MedicName("Medic");
    }
}

contract SCV is Marine, Medic{
    function Info() public override (Marine, Medic){
        // 보통 뒤쪽 문법에 있는 info가 나오게 된다. (medic)
        super.Info();
    }
}

```



※ super로 불러오게 되면 보통 뒤쪽 문법에 있는 info가 나오게 된다. (위에서는 medic)

## 매핑 ( mapping)

key / value 값이 존재한다.

## Mapping

```

// SPDX-License-Identifier: GPL-3.0
pragma solidity >=0.8.0 <0.9.0;

contract code21{
    //매핑
    mapping(uint256=>uint256) private ageList;

    function setAgeList(uint256 _index, uint256 _age) public{
        ageList[_index] = _age;
    }
}

```

```
function getAge(uint256 _index) public view returns(uint256) {  
    return ageList[_index];  
}  
}
```

CODE21 AT 0X3FB...4B245 (BLOCK)

Balance: 0 ETH

setAgeList

\_index: 30

\_age: 10

CalldataParameterstransact

getAge

\_index: 30

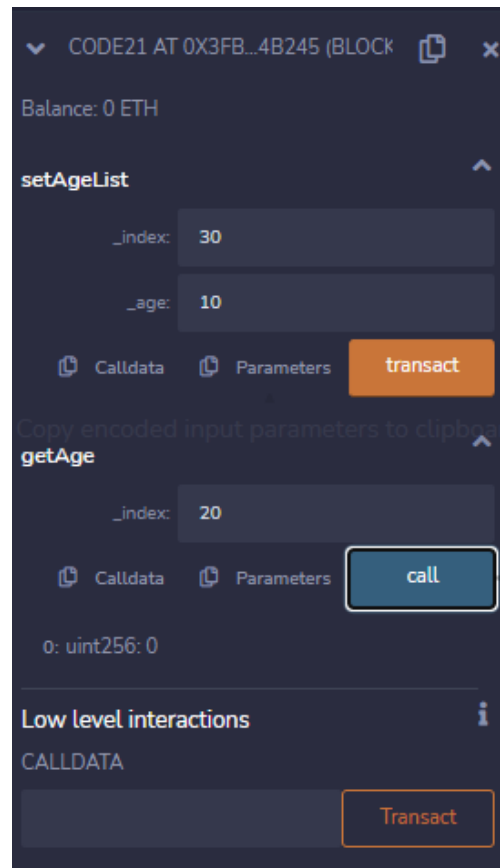
CalldataParameterscall

o: uint256: 10

Low level interactions

CALLDATA

Transact



## 배열 Array

mapping은 길이 체크가 없다.

array는 길이체크가 있다. length

타입[] 접근제한자 변수명

```
// SPDX-License-Identifier: GPL-3.0
pragma solidity >=0.8.0 <0.9.0;

contract code23{
    //배열선언
    uint256[] public num;

    // 배열 0번요소부터 값이 있다.

    //길이를 알수 있는 함수
    function NumLength() public view returns(uint256){
        return num.length;
    }

    //배열에 값을 넣는 함수
    function NumPush(uint256 _num) public {
```

```



        num.push(_num);
    }

    // 배열 원하는 인덱스에 값을 수정
    function NumChange(uint256 _index, uint256 _num) public {
        num[_index] = _num;
    }


    //배열 요소 값 삭제하기
    function NumPop() public{
        num.pop();
    }

    function NumDel(uint256 _index) public {
        delet num=[_index]
    }
}



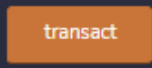
```


CODE23 AT 0X388...25427 (BLOCK)  

Balance: 0 ETH



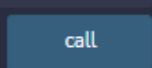
**NumPush** 

\_num:

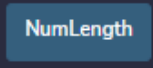
 Calldata  Parameters 

**num** 


:

 Calldata  Parameters 

0: uint256: 1



0: uint256: 1

**Low level interactions** 

CALLDATA

