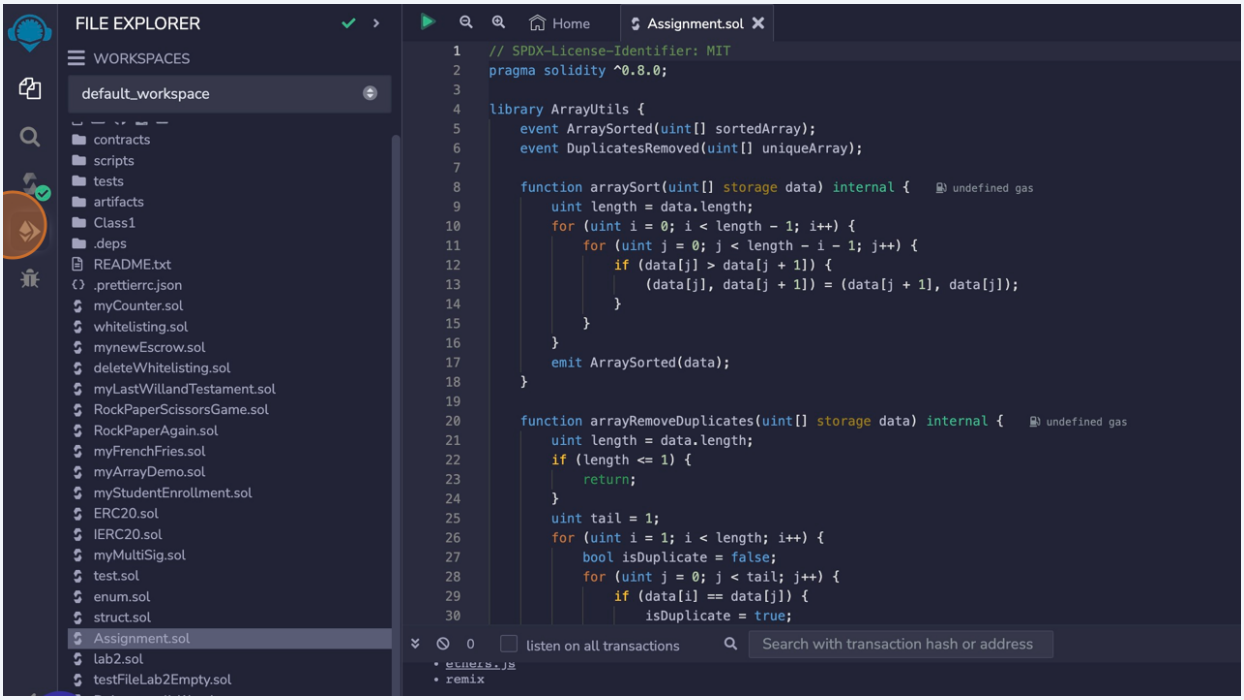
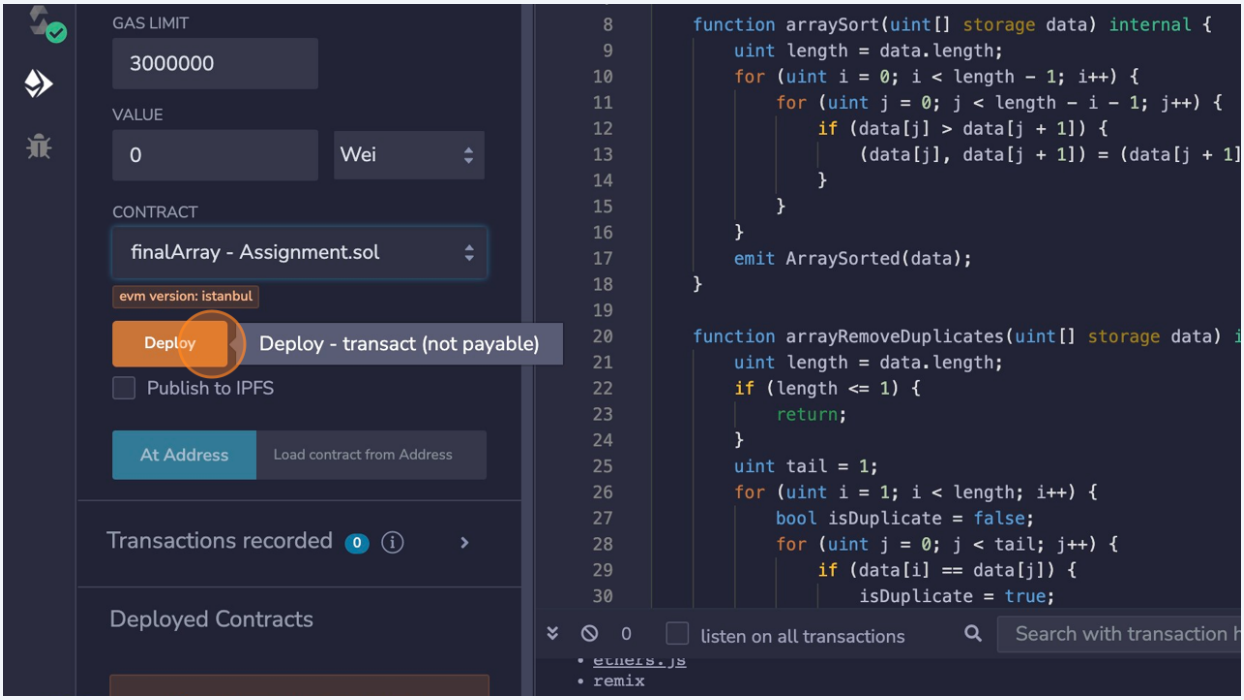
Lab 1

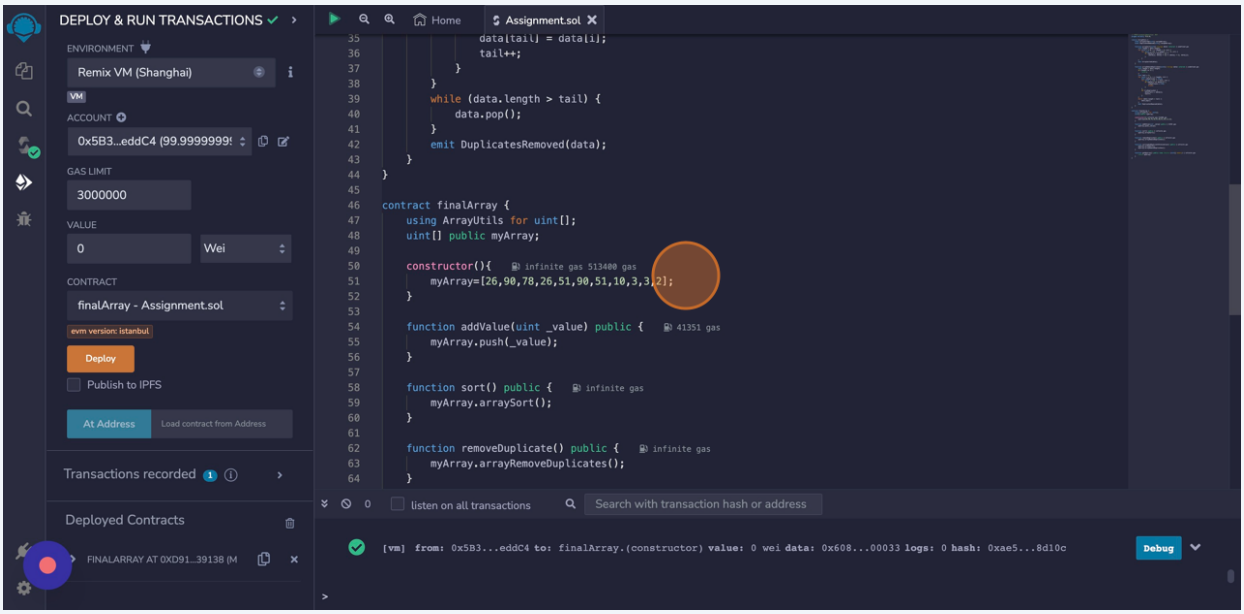
1


FILE EXPLORER
WORKSPACES
default_workspace
contracts
scripts
tests
artifacts
Class1
.deps
README.txt
.prettierrc.json
myCounter.sol
whitelisting.sol
mynewEscrow.sol
deleteWhitelisting.sol
myLastWillandTestament.sol
RockPaperScissorsGame.sol
RockPaperAgain.sol
myFrenchFries.sol
myArrayDemo.sol
myStudentEnrollment.sol
ERC20.sol
IERC20.sol
myMultiSig.sol
test.sol
enum.sol
struct.sol
Assignment.sol
lab2.sol
testFileLab2Empty.sol
Home
Assignment.sol
// SPDX-License-Identifier: MIT
pragma solidity ^0.8.0;
library ArrayUtils {
event ArraySorted(uint[] sortedArray);
event DuplicatesRemoved(uint[] uniqueArray);
function arraySort(uint[] storage data) internal {
uint length = data.length;
for (uint i = 0; i < length - 1; i++) {
for (uint j = 0; j < length - i - 1; j++) {
if (data[j] > data[j + 1]) {
(data[j], data[j + 1]) = (data[j + 1], data[j]);
}
}
}
emit ArraySorted(data);
}
function arrayRemoveDuplicates(uint[] storage data) internal {
uint length = data.length;
if (length <= 1) {
return;
}
uint tail = 1;
for (uint i = 1; i < length; i++) {
bool isDuplicate = false;
for (uint j = 0; j < tail; j++) {
if (data[i] == data[j]) {
isDuplicate = true;
listen on all transactions
Search with transaction hash or address
remix

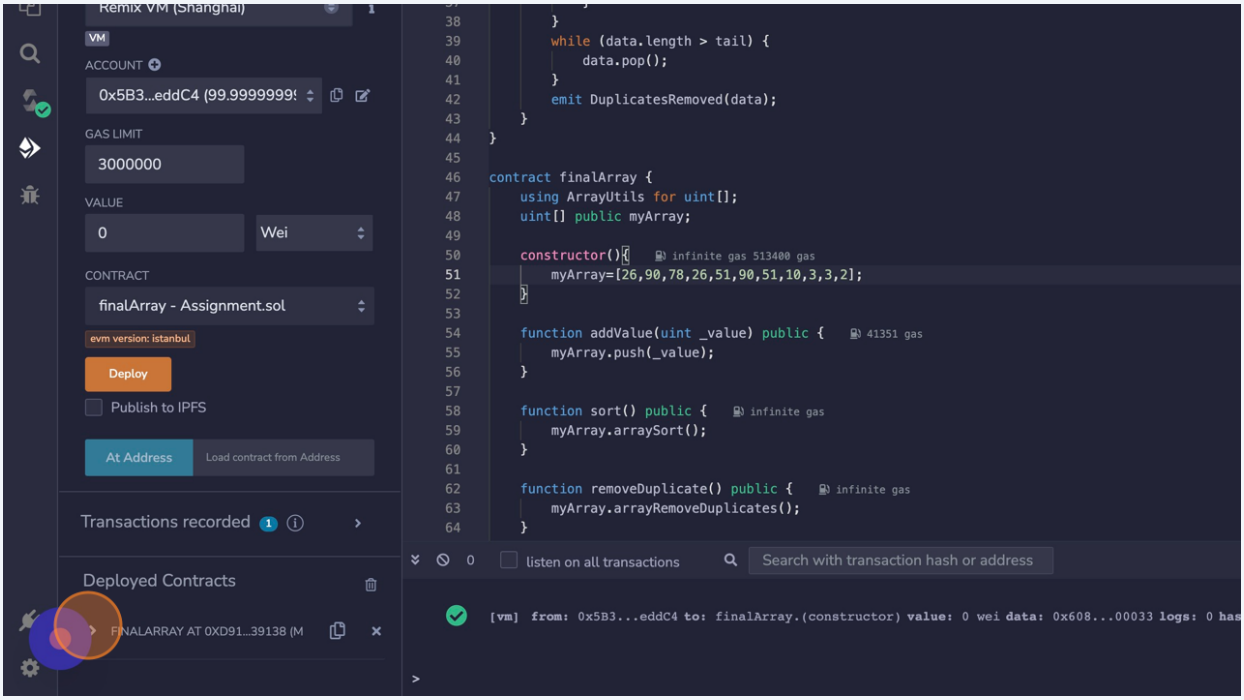
2


GAS LIMIT
3000000
VALUE
0
Wei
CONTRACT
finalArray - Assignment.sol
evm version: istanbul
Deploy
Deploy - transact (not payable)
Publish to IPFS
At Address
Load contract from Address
Transactions recorded 0
Deployed Contracts
function arraySort(uint[] storage data) internal {
uint length = data.length;
for (uint i = 0; i < length - 1; i++) {
for (uint j = 0; j < length - i - 1; j++) {
if (data[j] > data[j + 1]) {
(data[j], data[j + 1]) = (data[j + 1]
}
}
}
emit ArraySorted(data);
}
function arrayRemoveDuplicates(uint[] storage data) i
uint length = data.length;
if (length <= 1) {
return;
}
uint tail = 1;
for (uint i = 1; i < length; i++) {
bool isDuplicate = false;
for (uint j = 0; j < tail; j++) {
if (data[i] == data[j]) {
isDuplicate = true;
0
listen on all transactions
Search with transaction h
remix

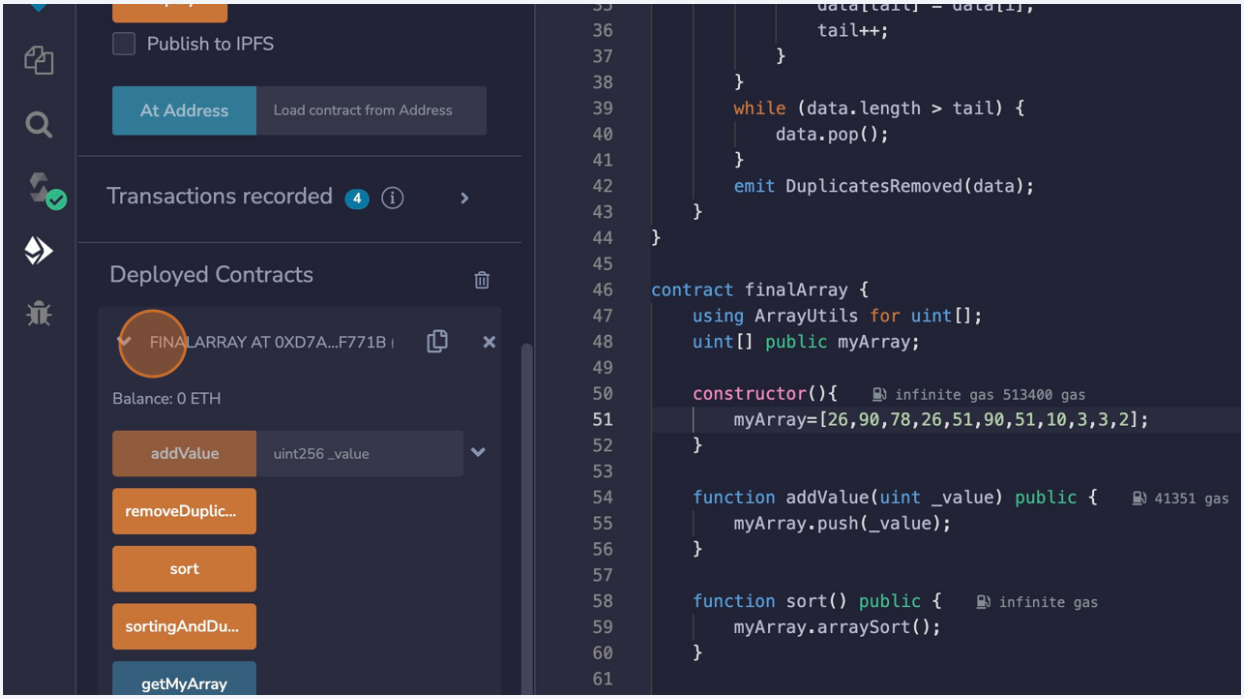
3


DEPLOY & RUN TRANSACTIONS
ENVIRONMENT
Remix VM (Shanghai)
ACCOUNT
GAS LIMIT
3000000
VALUE
0
Wei
CONTRACT
finalArray - Assignment.sol
evm version: istanbul
Deploy
Publish to IPFS
At Address
Load contract from Address
Transactions recorded 1
Deployed Contracts
Home
Assignment.sol
contract finalArray {
using ArrayUtils for uint[];
uint[] public myArray;
constructor(){
myArray=[26,90,78,26,51,90,51,10,3,3,2];
}
function addValue(uint _value) public {
myArray.push(_value);
}
function sort() public {
myArray.arraySort();
}
function removeDuplicate() public {
myArray.arrayRemoveDuplicates();
}
}
listen on all transactions
Search with transaction hash or address
Debug

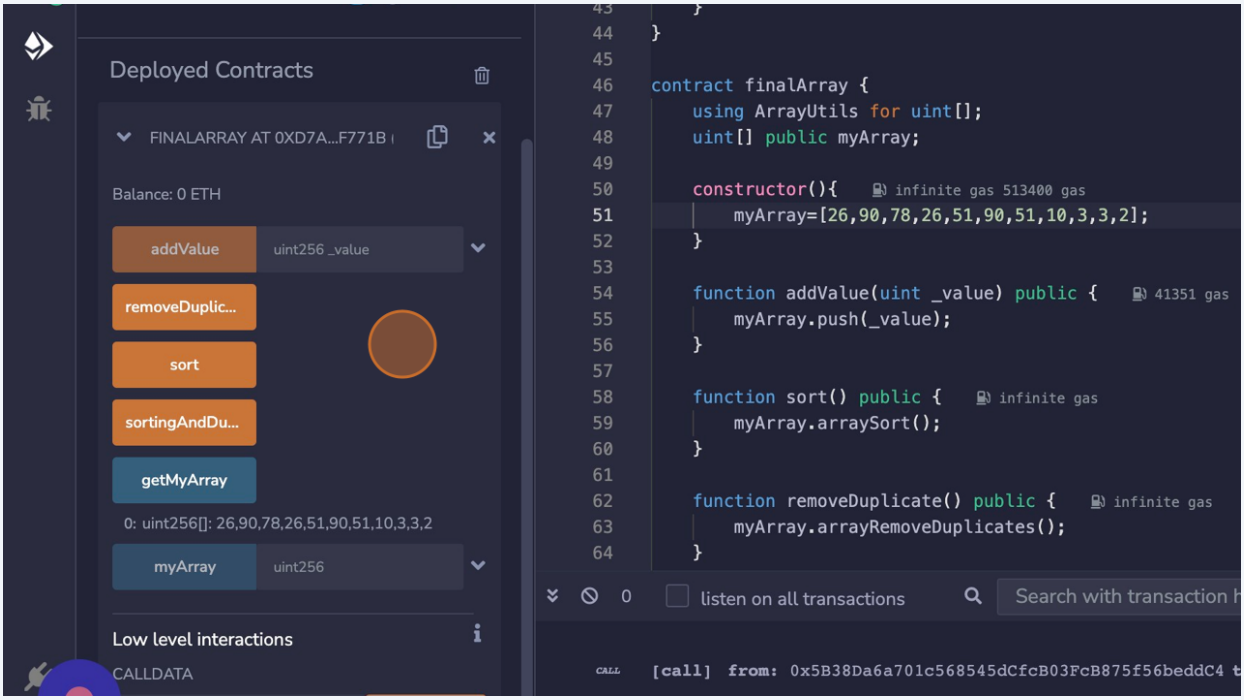
4



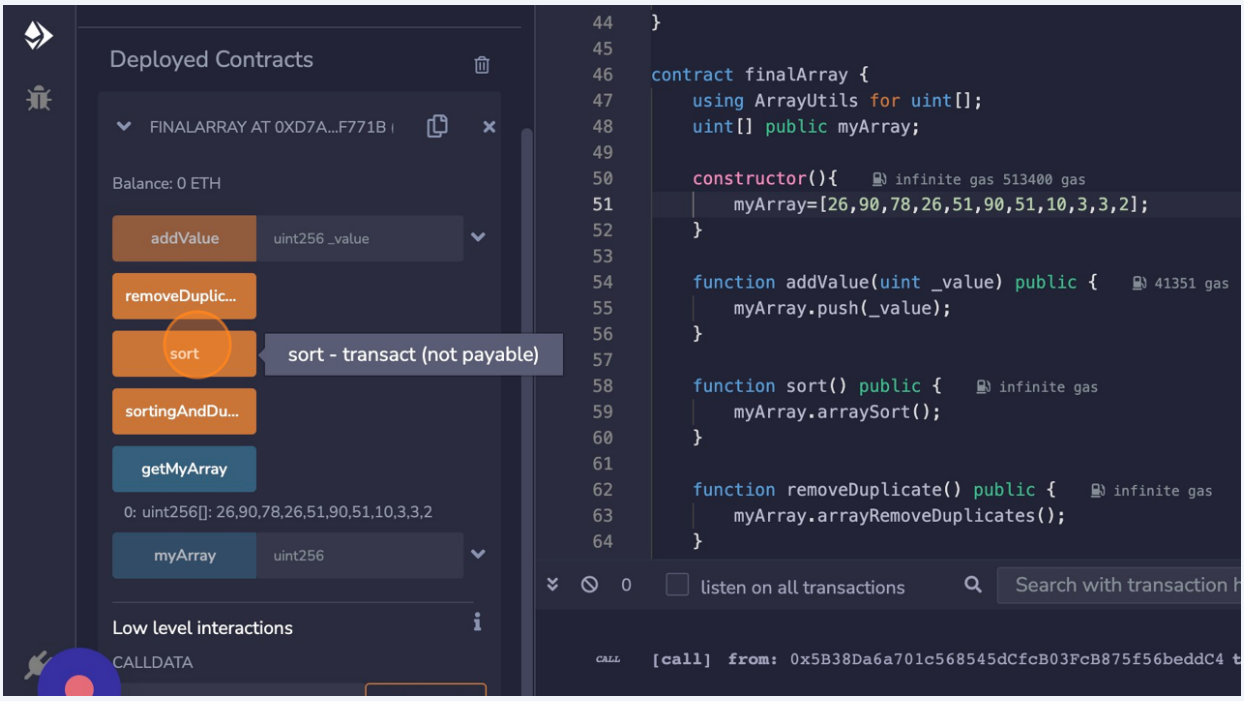
5 Double-click "FINALARRAY AT 0XD7A...F771B (MEMORY)"



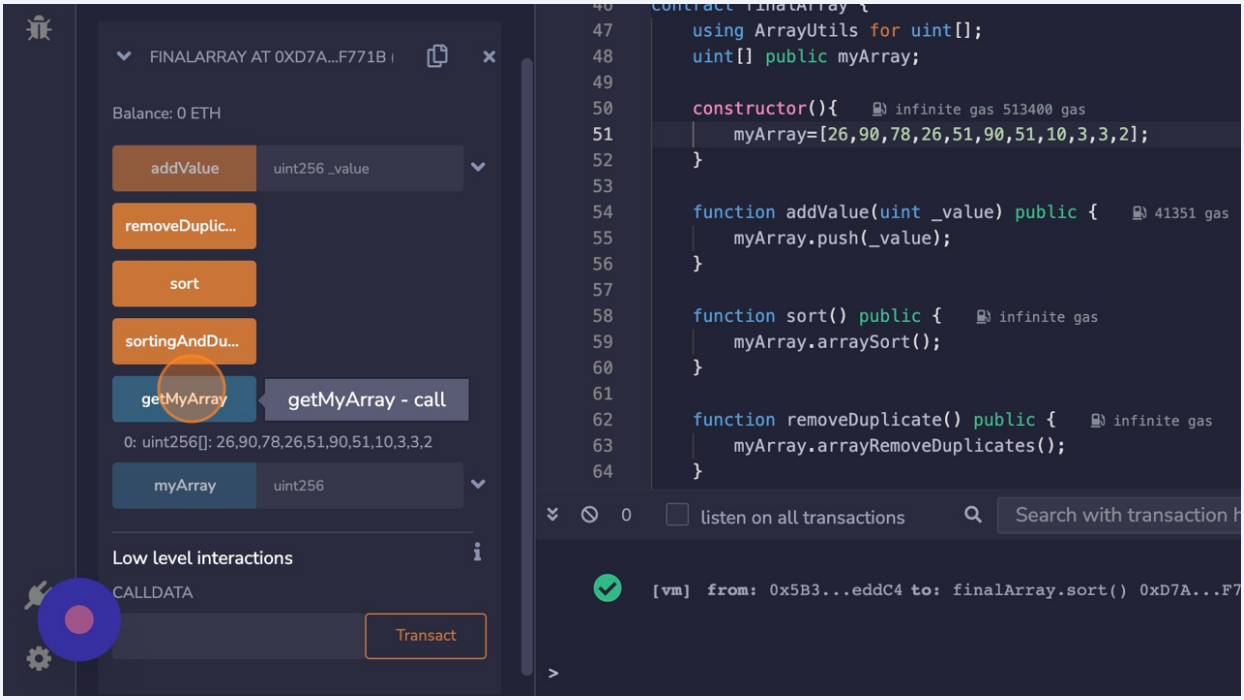
6 Click here.



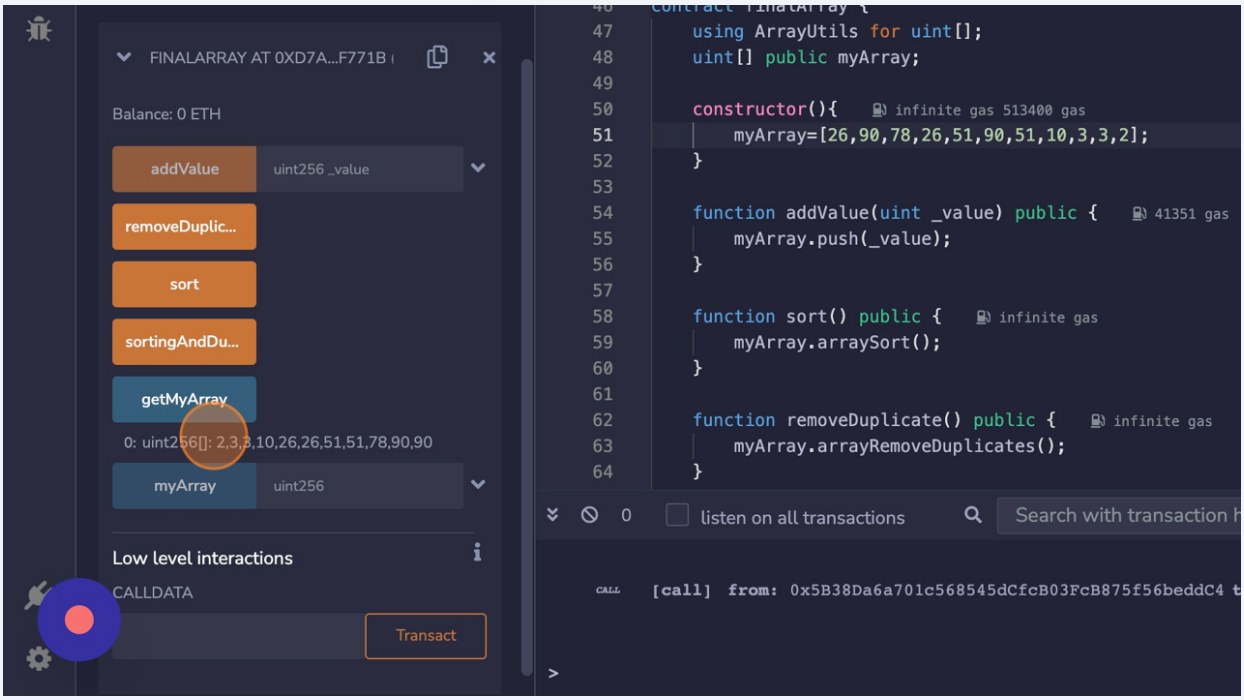
7 Click here.



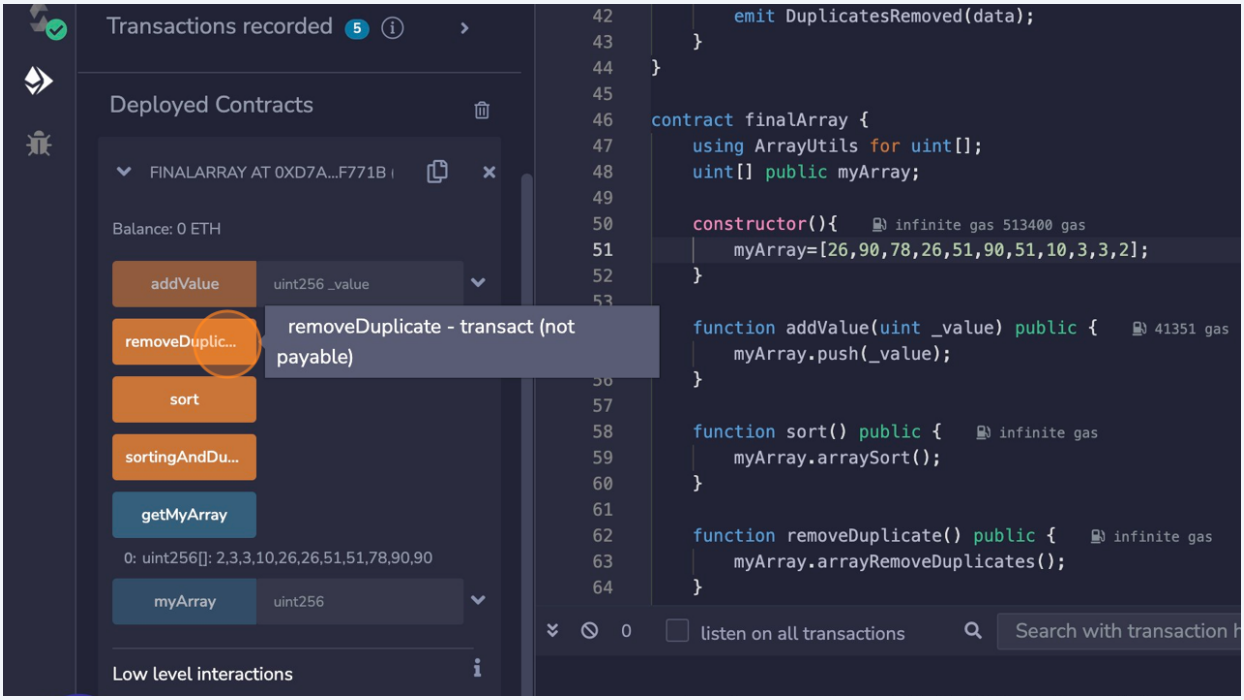
8 Click here.



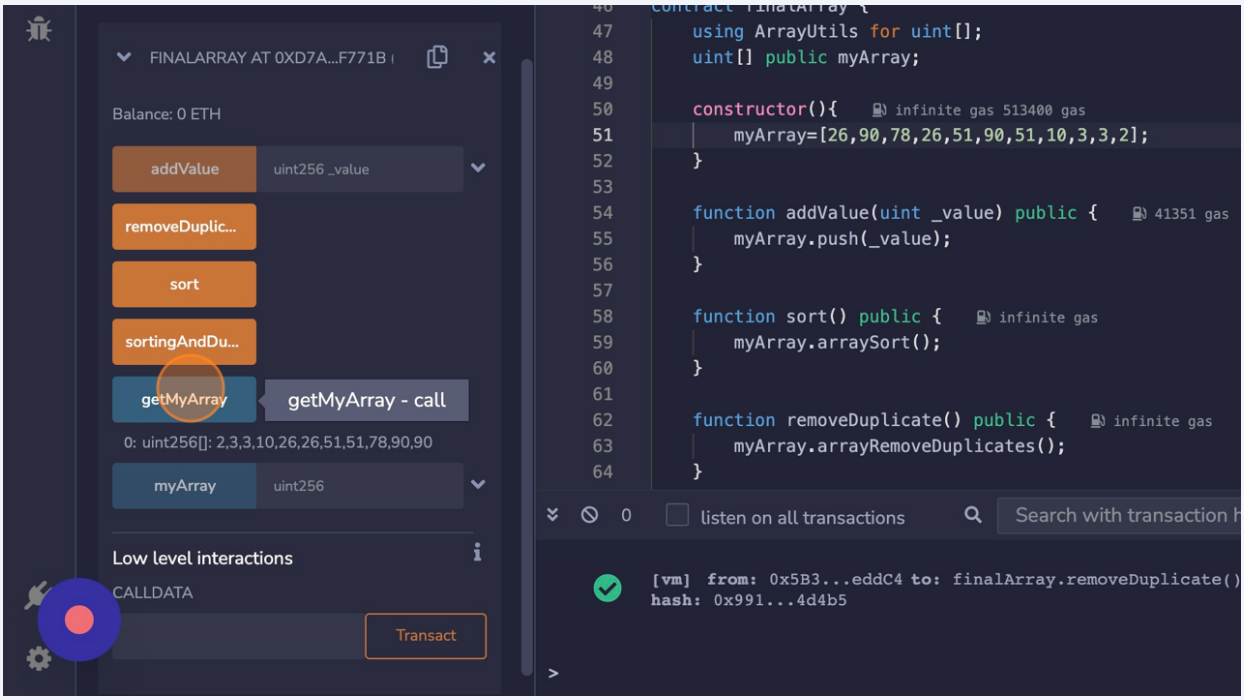
9 It shows "uint256[]: 2,3,3,10,26,26,51,51,78,90,90"



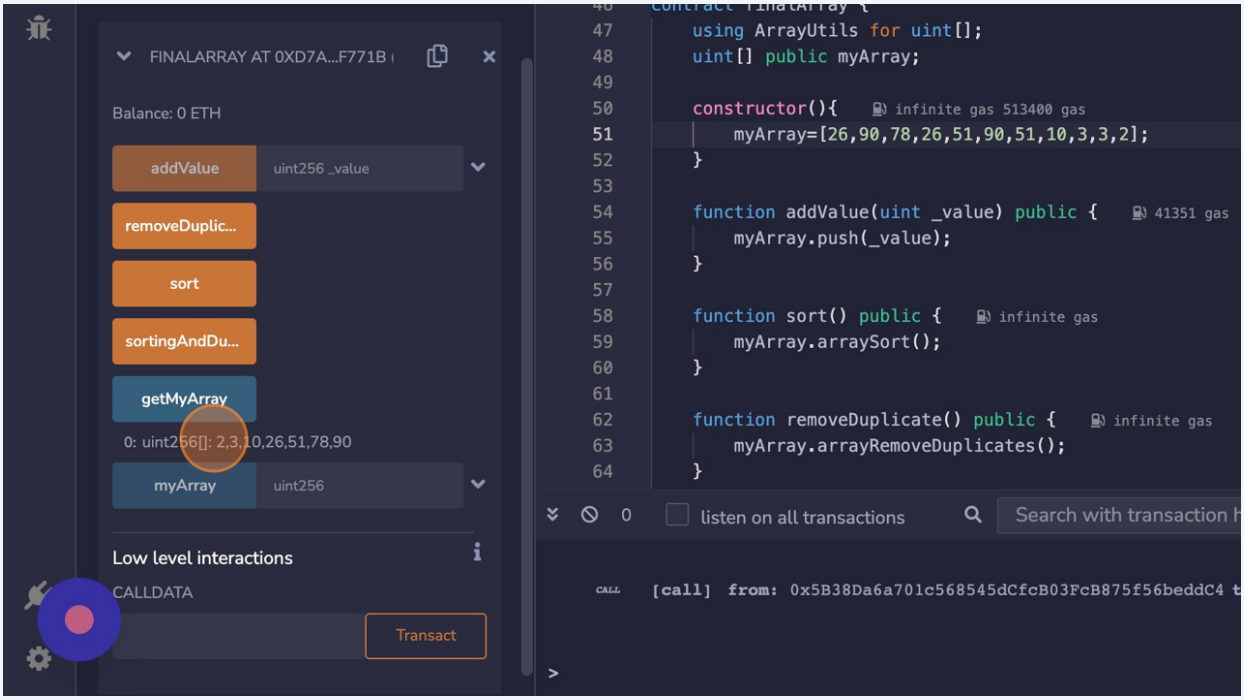
10 Click here.



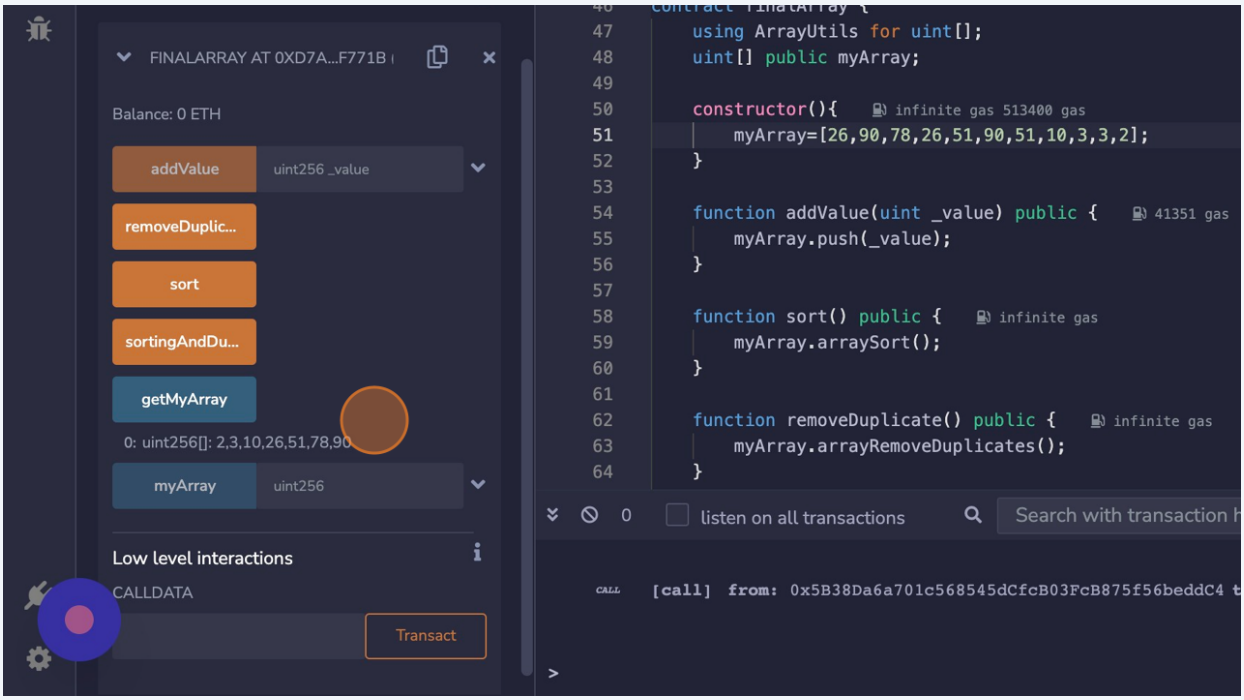
11 Click here.



12


FINALARRAY AT 0XD7A...F771B
Balance: 0 ETH
addValue
uint256 _value
removeDuplic...
sort
sortingAndDu...
getMyArray
0: uint256[]: 2,3,10,26,51,78,90
myArray
uint256
Low level interactions
CALLDATA
Transact
using ArrayUtils for uint[];
uint[] public myArray;
constructor(){ infinite gas 513400 gas
myArray=[26,90,78,26,51,90,51,10,3,3,2];
function addValue(uint _value) public { 41351 gas
myArray.push(_value);
function sort() public { infinite gas
myArray.arraySort();
function removeDuplicate() public { infinite gas
myArray.arrayRemoveDuplicates();
listen on all transactions
Search with transaction h
[call] from: 0x5B38Da6a701c568545dCfcB03FcB875f56beddC4 t

13


FINALARRAY AT 0XD7A...F771B
Balance: 0 ETH
addValue
uint256 _value
removeDuplic...
sort
sortingAndDu...
getMyArray
0: uint256[]: 2,3,10,26,51,78,90
myArray
uint256
Low level interactions
CALLDATA
Transact
using ArrayUtils for uint[];
uint[] public myArray;
constructor(){ infinite gas 513400 gas
myArray=[26,90,78,26,51,90,51,10,3,3,2];
function addValue(uint _value) public { 41351 gas
myArray.push(_value);
function sort() public { infinite gas
myArray.arraySort();
function removeDuplicate() public { infinite gas
myArray.arrayRemoveDuplicates();
listen on all transactions
Search with transaction h
[call] from: 0x5B38Da6a701c568545dCfcB03FcB875f56beddC4 t