

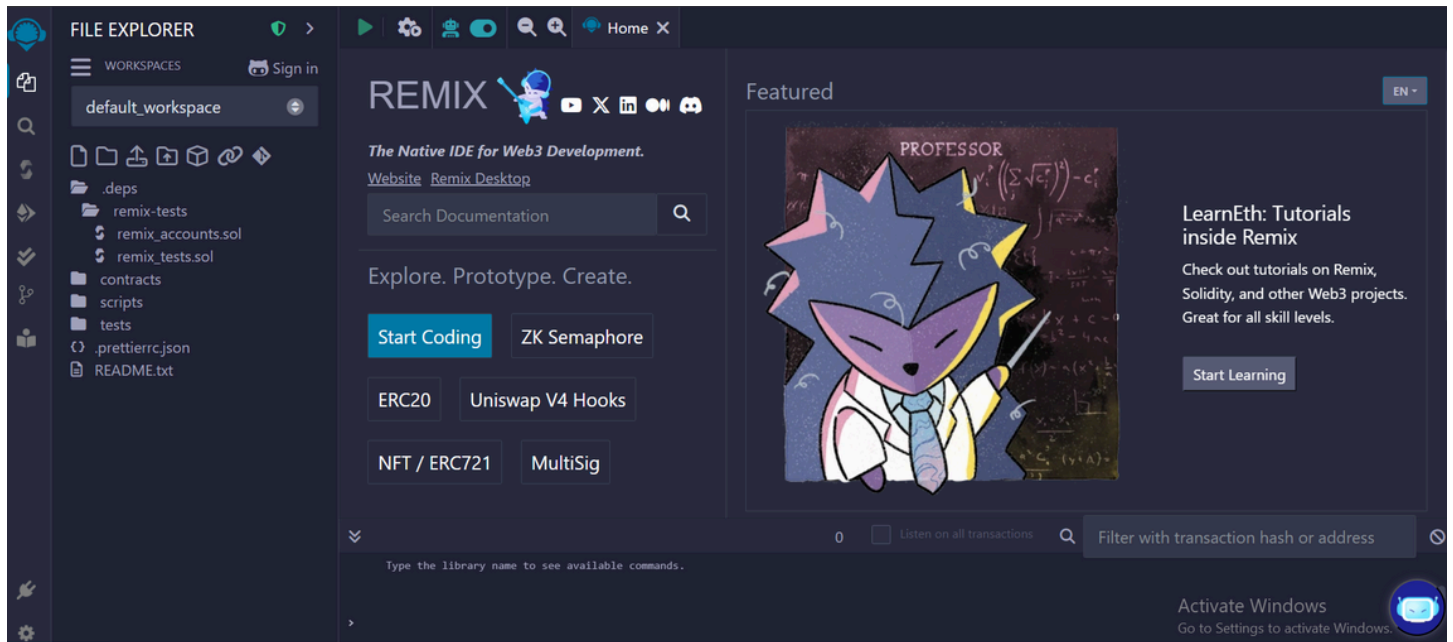
Hannah Emad

ID:2205123

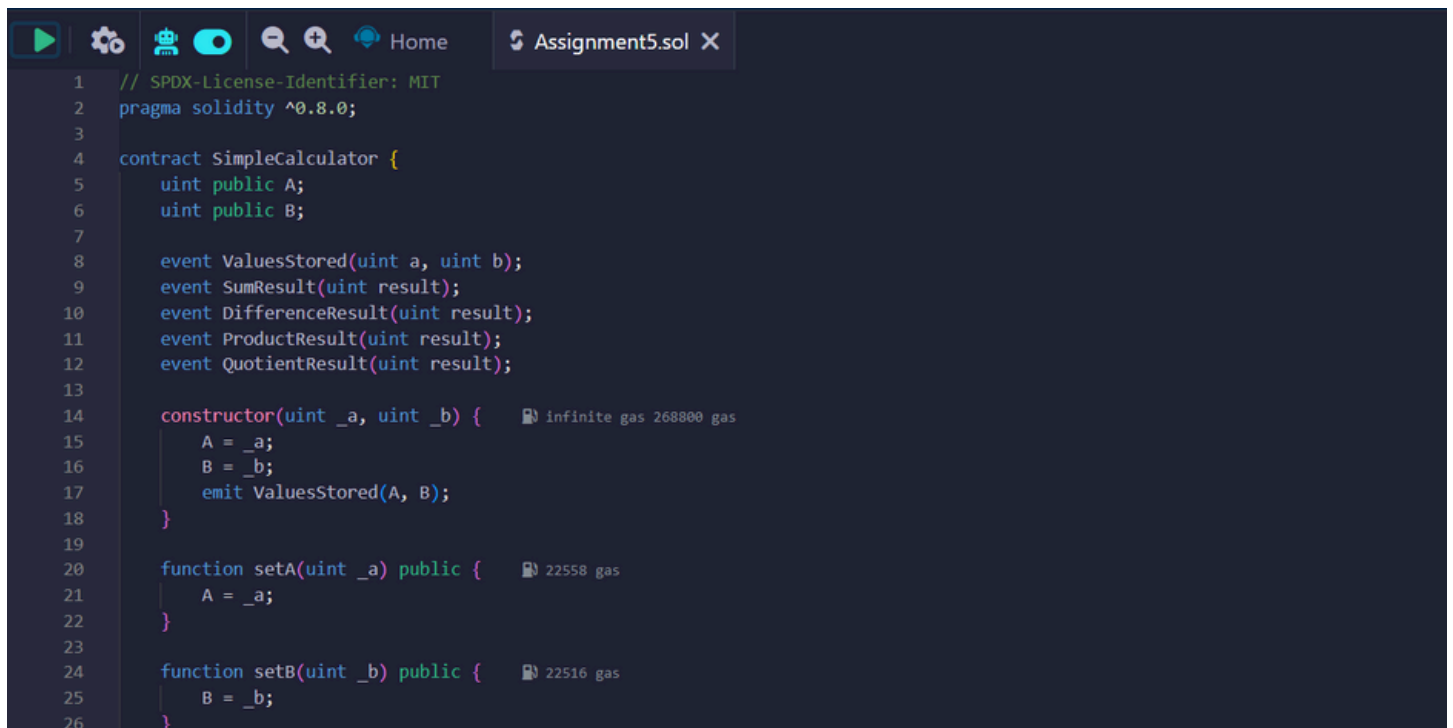
## Assignment 5

### Implementation:

Open Remix IDE with this link <https://remix.ethereum.org>



Create a new file: **Assignment5.sol**



```

function calculateSum() public {    ⚠ infinite gas
    uint sum = A + B;
    emit SumResult(sum);
}

function calculateDifference() public {    ⚠ infinite gas
    uint diff = A > B ? A - B : B - A;
    emit DifferenceResult(diff);
}

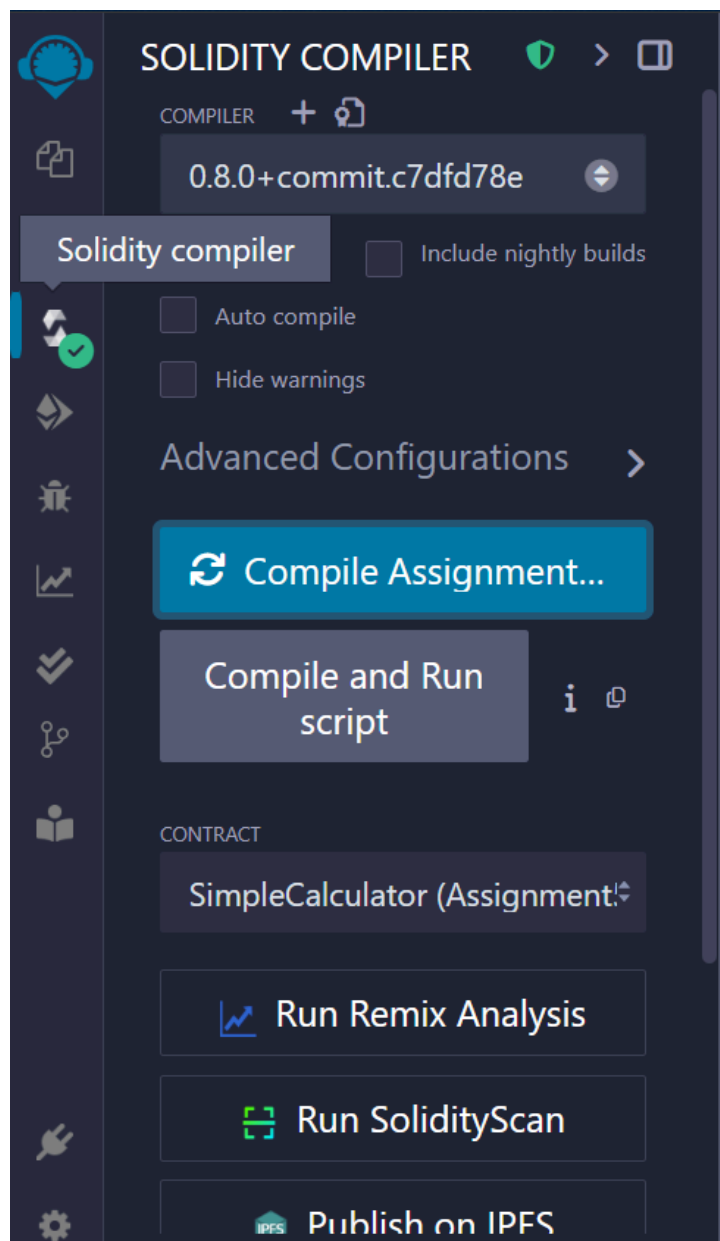
function calculateProduct() public {    ⚠ infinite gas
    uint product = A * B;
    emit ProductResult(product);
}

function calculateQuotient() public {    ⚠ infinite gas
    require(B != 0, "Cannot divide by zero");
    uint quotient = A / B;
    emit QuotientResult(quotient);
}
}

```

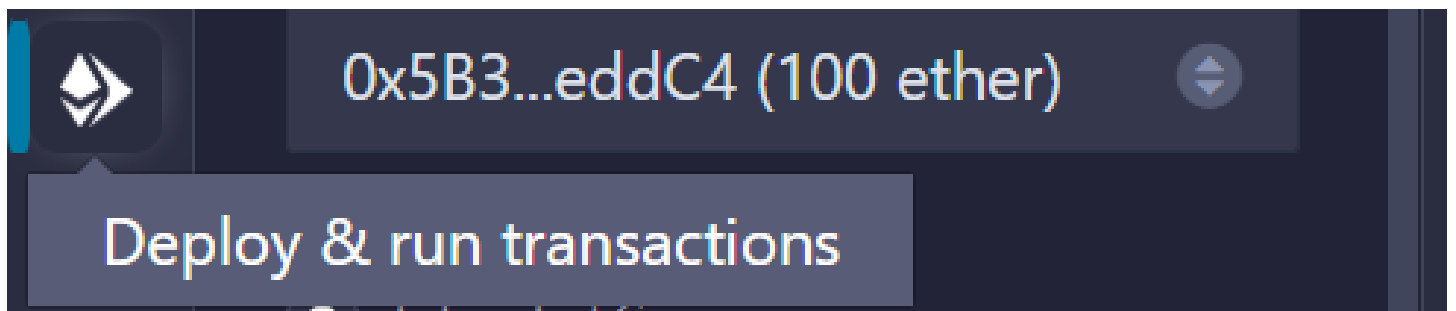
## Compile the Contract

1. Go to the Solidity Compiler tab
2. Select version 0.8.x
3. Click Compile Assignment5.sol



### Connect MetaMask to Remix

Go to the **Deploy & Run Transactions** tab



Make sure MetaMask is installed

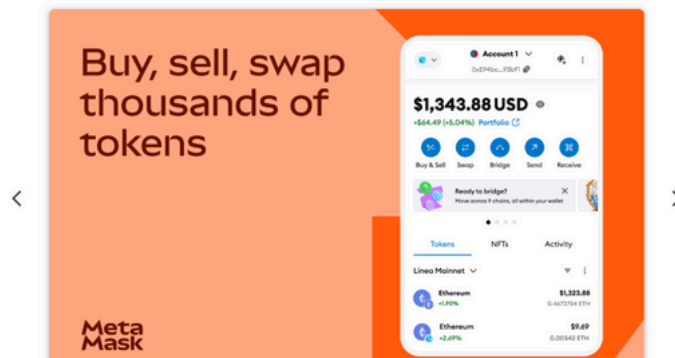


# MetaMask

[Remove from Chrome](#)

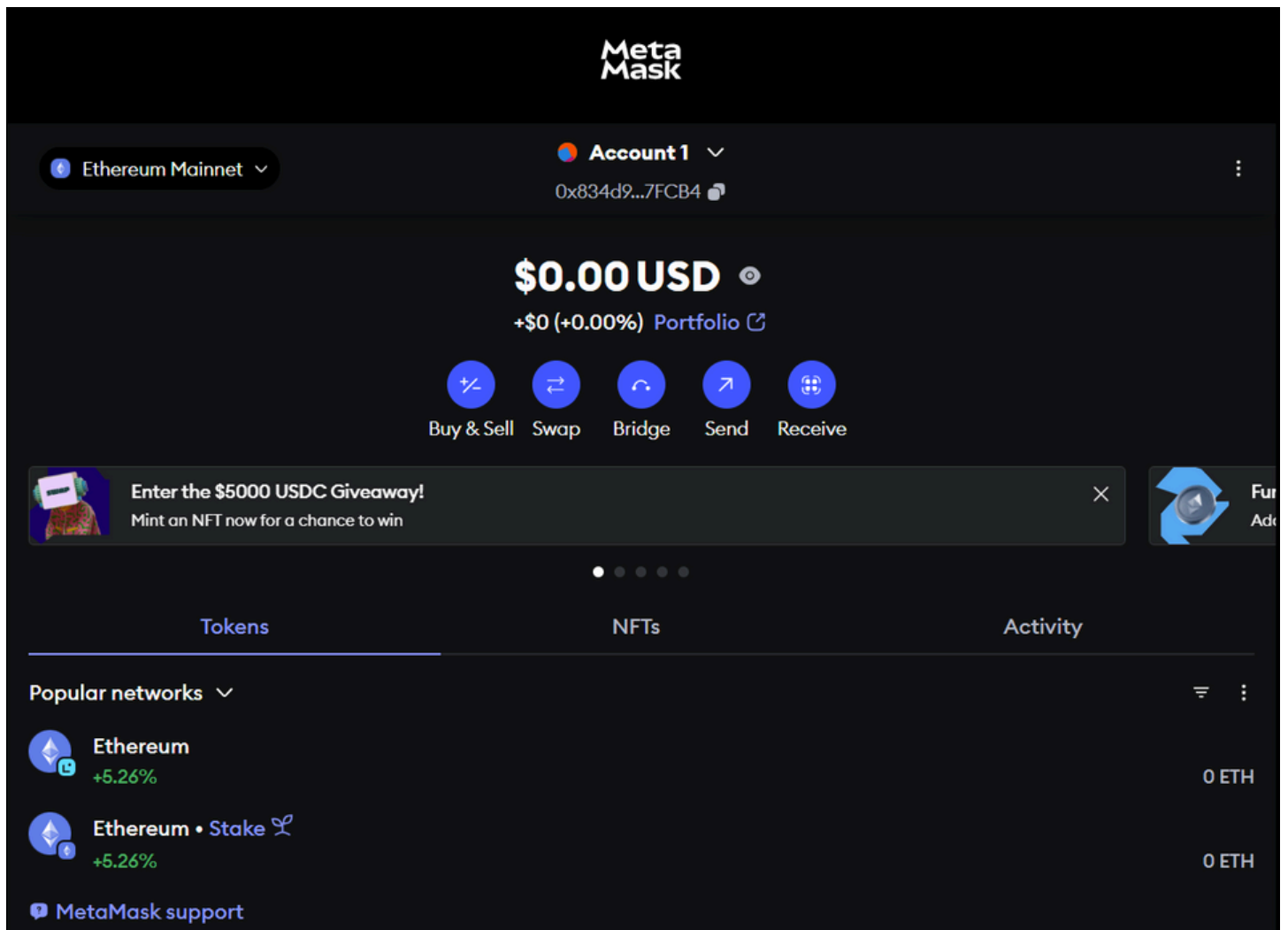
[metamask.io](#) 2.8 ★ (5.2K ratings) [Share](#)

Extension Workflow and planning 15,000,000 users

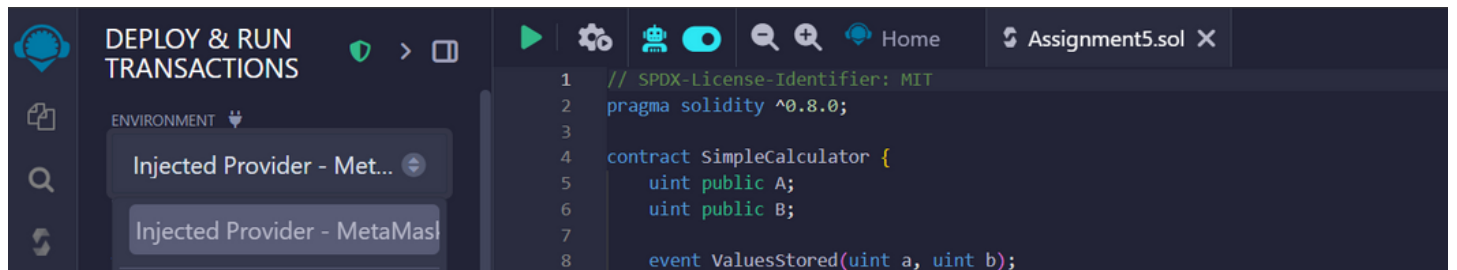


Activate Windows  
Go to Settings to activate Windows.

Meta Mask:



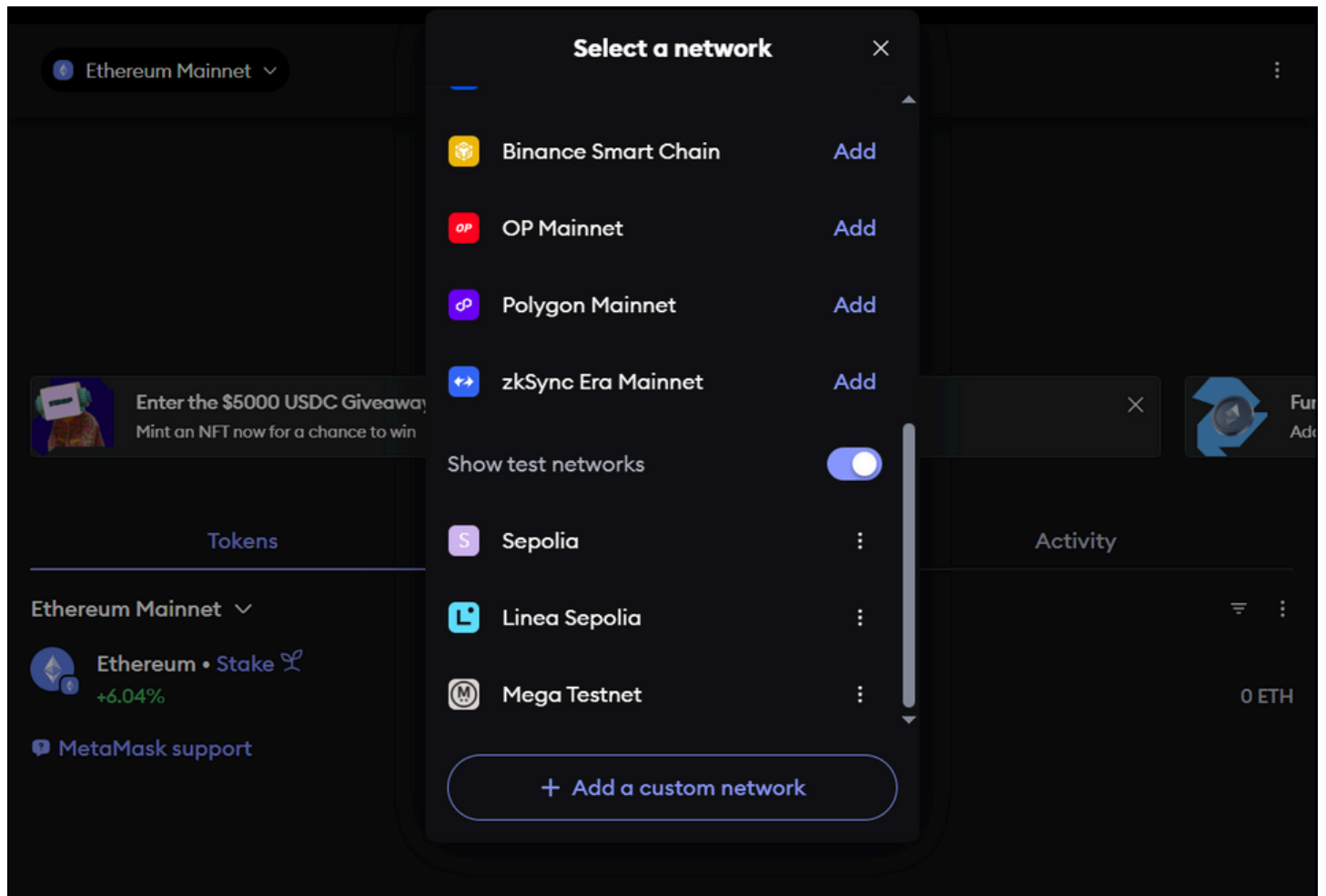
In "Environment", choose: **Injected Provider - MetaMask**



MetaMask popup will appear – click Connect

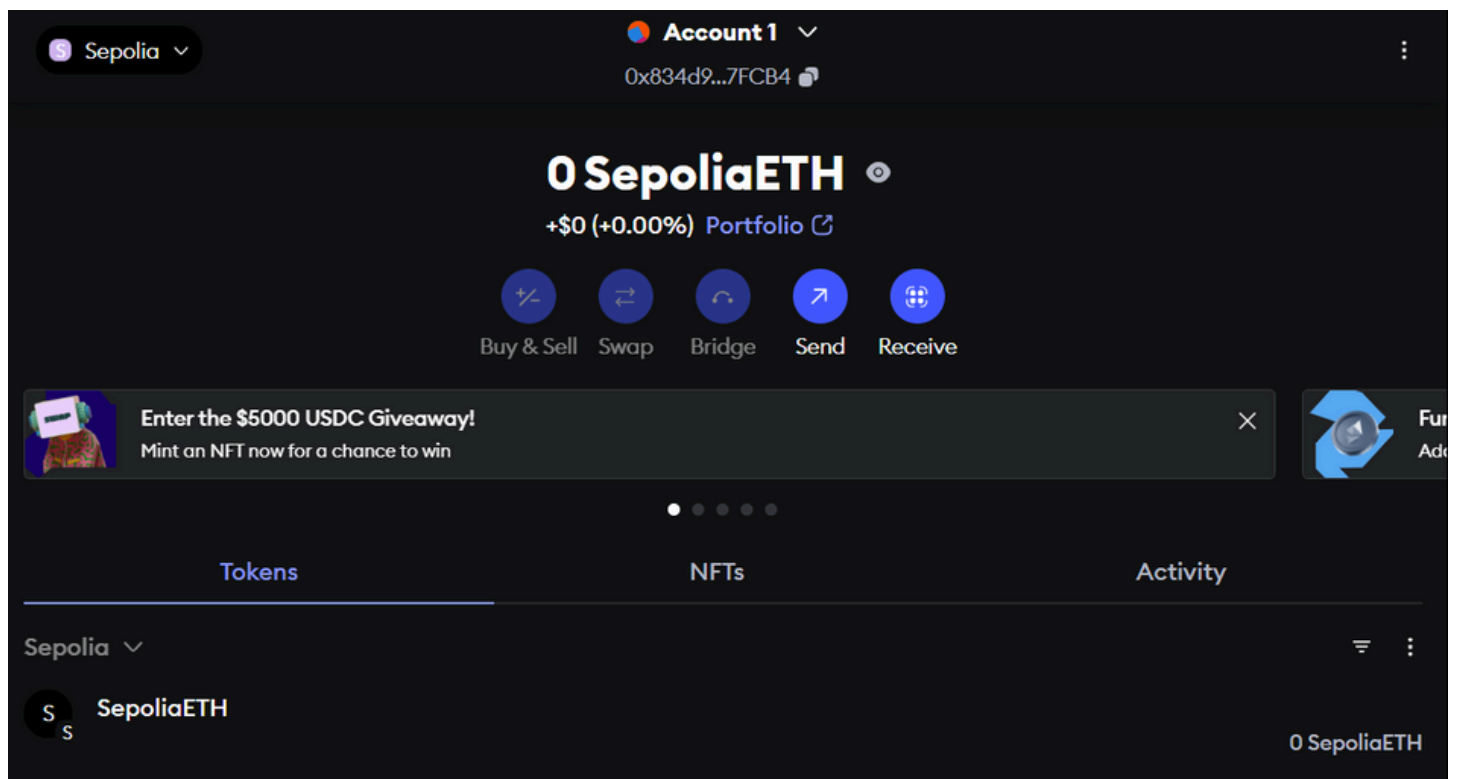
### Switch MetaMask to a Test Network

1. Click the network selector ('Ethereum Mainnet')
2. Click 'Show test networks'



### Switch to Sepolia

1. Click on 'Sepolia test network'
2. we are now on the test network – ready to deploy



If You Need test ETH for Sepolia:

Go to: <https://faucet.quicknode.com> then write wallet address

Win up to \$8,000 USD by building with Blockchain RPC and PYUSD [Learn more](#)

## Ethereum Sepolia Faucet BETA

Get free Sepolia ETH sent directly to your wallet. Brought to you by [Google Cloud for Web3](#).

Select network\*  
Ethereum Sepolia

\*required

Wallet address or ENS name\*  
0x834d95545Ebb35dC5B2dF7f2EAF06cE7C6F7FCB4

Enter the account address or ENS name where you want to receive tokens


Receive 0.05 Sepolia ETH

Click "Send me test ETH"

# Ethereum Sepolia Faucet BETA

Get free Sepolia ETH sent directly to your wallet. Brought to you by [Google Cloud for Web3](#).

## Drip in queue

 Your testnet tokens are on the way! This may take a few moments.

Network  
Ethereum Sepolia

Recipient  
0x834d95545Ebb35dC5B2dF7f2EAF06cE7C6F7FCB4

Transaction hash (pending)  
[0xfbee4d11ed70406821e1357572f4b12b696af104f03211f920dcebd028adc382](#)

### Testnet tokens sent

# Ethereum Sepolia Faucet BETA

Get free Sepolia ETH sent directly to your wallet. Brought to you by [Google Cloud for Web3](#).

## Drip complete

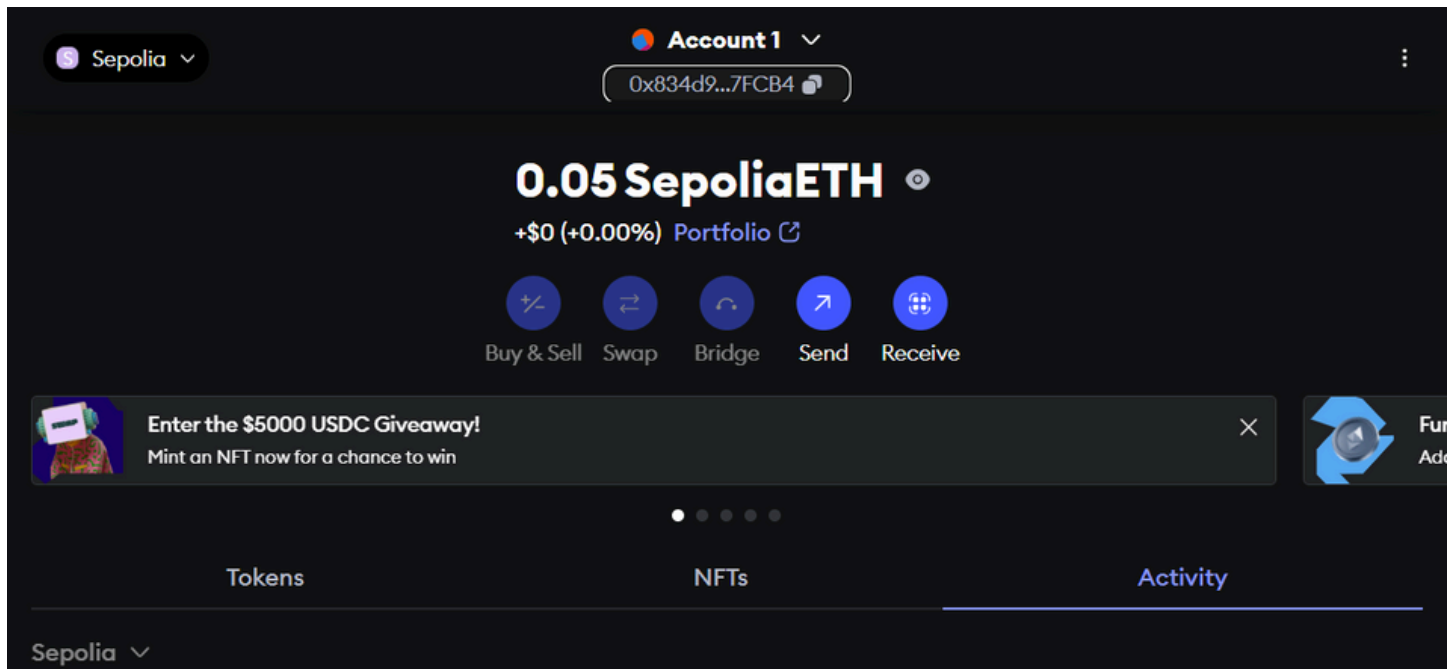
 Testnet tokens sent! Check your wallet address.

Network  
Ethereum Sepolia

Recipient  
0x834d95545Ebb35dC5B2dF7f2EAF06cE7C6F7FCB4

Transaction hash  
[0xfbee4d11ed70406821e1357572f4b12b696af104f03211f920dcebd028adc382](#)

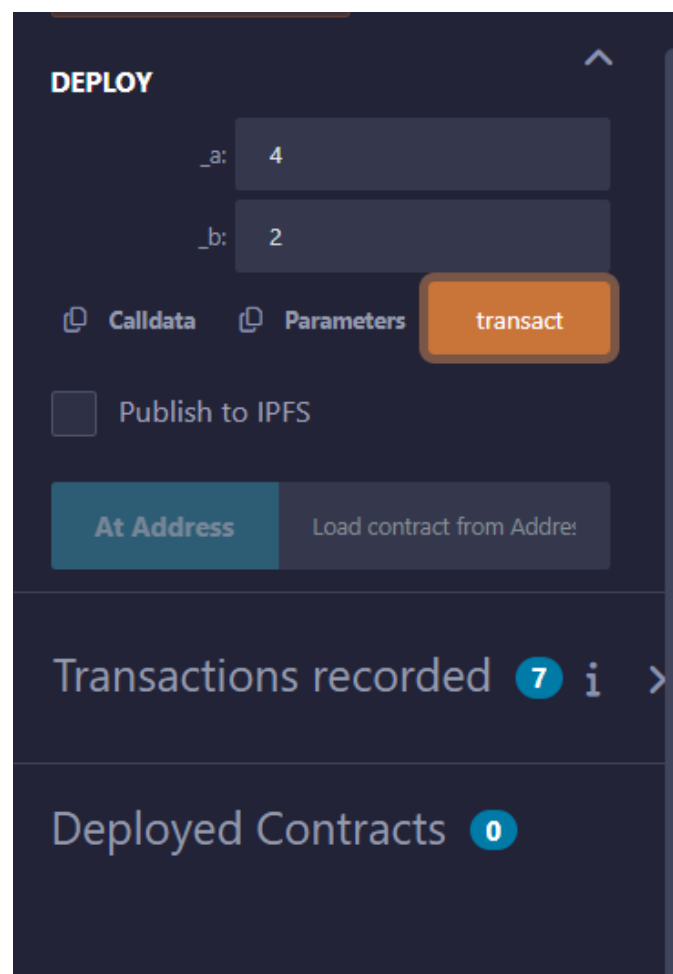
### Drip complete



## Deploy the Contract

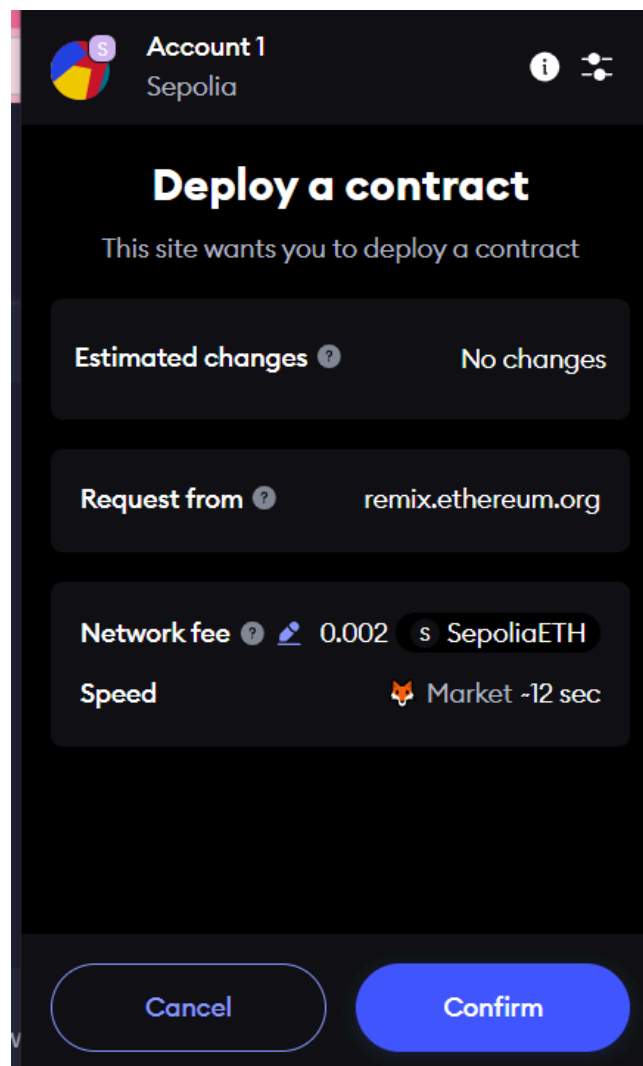
In Remix under **Deploy** tab:

- Enter 2 values (**4 and 2**) as input for constructor parameters A and B and **Click Deploy**

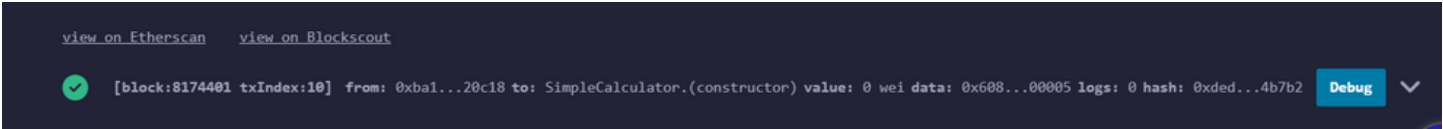
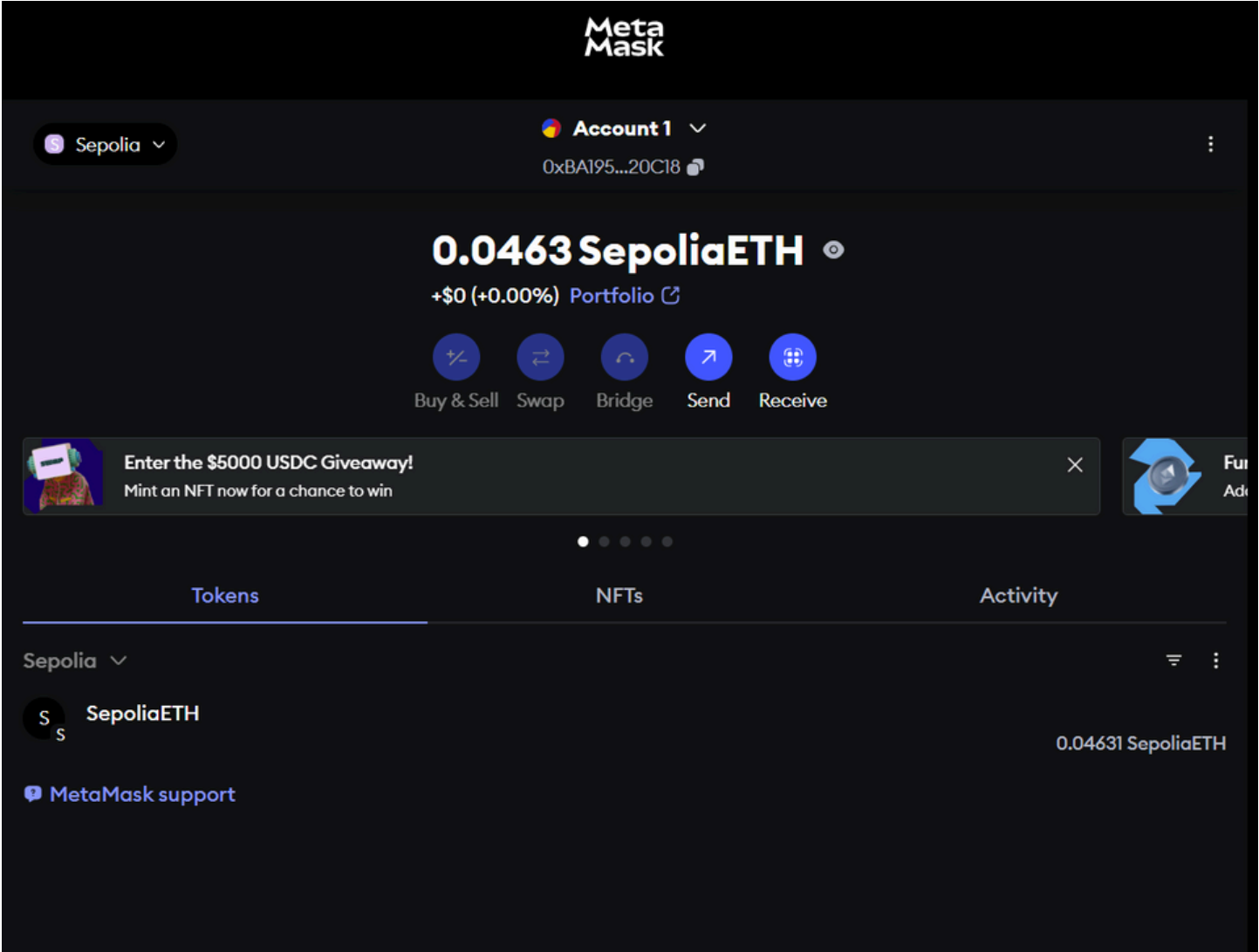


Confirm the transaction in MetaMask



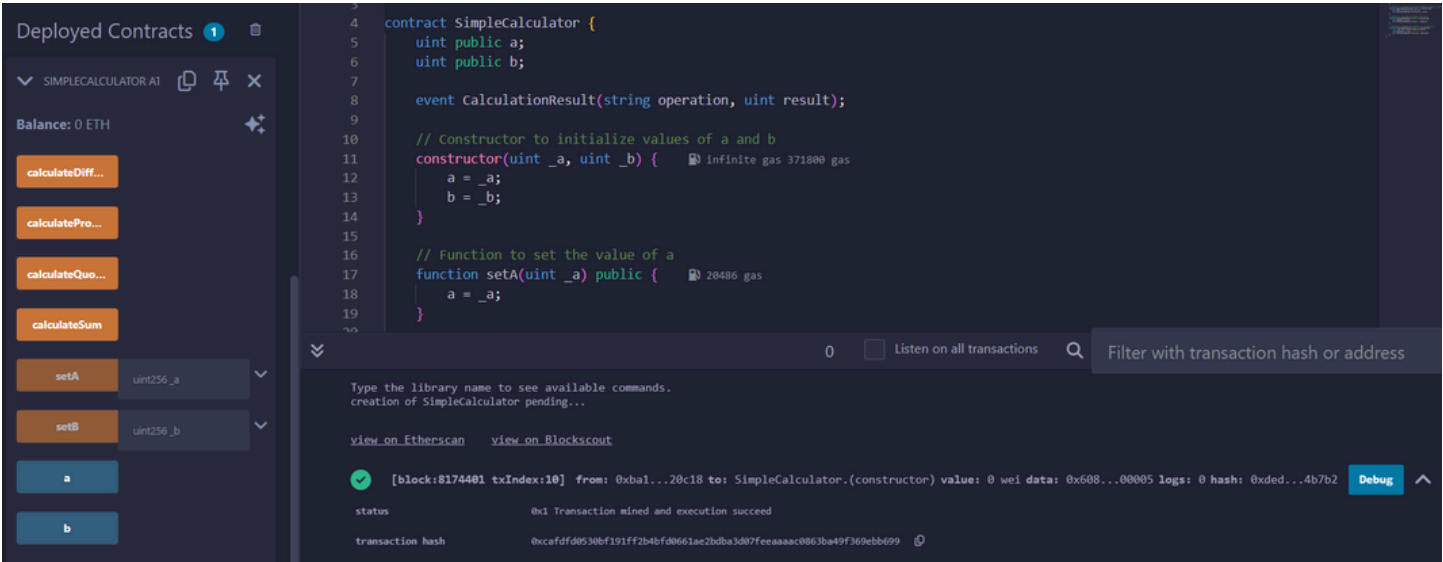


After confirming in MetaMask



Use the Functions

After deployment, your contract will appear at the bottom under 'Deployed Contracts'

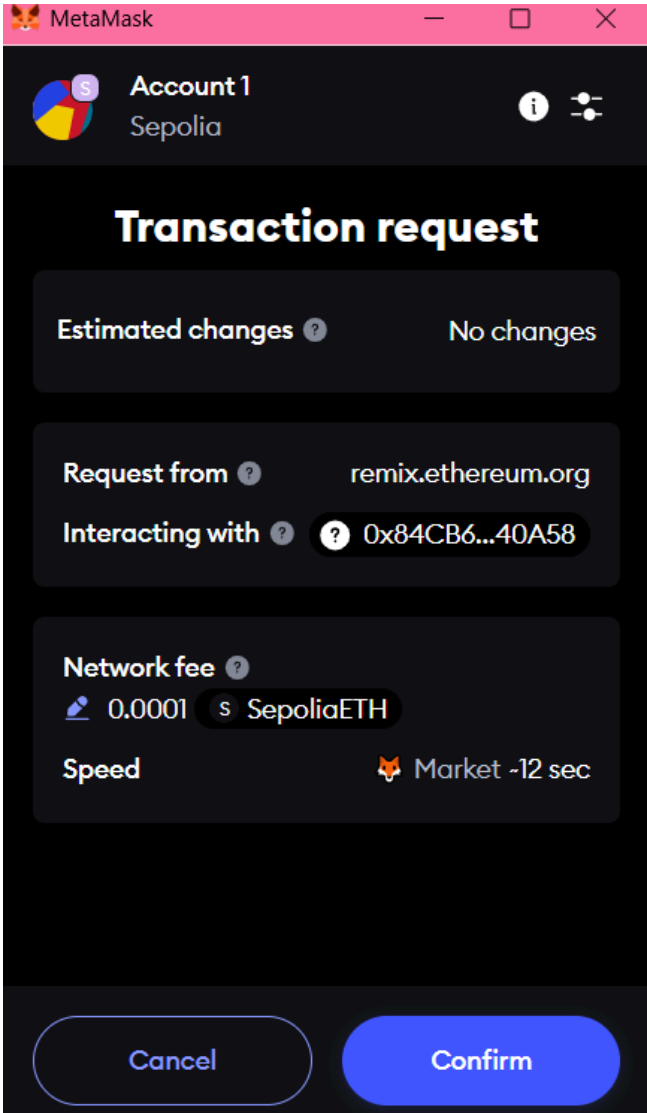


Contract Functions

Function	Description
setA(uint)	Sets value of A and emits event
setB(uint)	Sets value of B and emits event
calculateSum()	Emits sum of A and B
calculateDifference()	Emits absolute difference
calculateProduct()	Emits product
calculateQuotient()	Emits quotient if B $\neq$ 0

Use the following buttons one by one:

- `calculateSum()`:



Sepolia

Account 1  
0xBA195...20C18

0.0462 SepoliaETH

+\$0 (+0.00%) Portfolio

Buy & Sell Swap Bridge Send Receive



Enter the \$5000 USDC Giveaway!  
Mint an NFT now for a chance to win



Full  
Ad

Tokens

NFTs

Activity

Sepolia



SepoliaETH

0.04619 SepoliaETH

MetaMask support

Check the Logs section below. The results will appear there using the emit events.

[view on Etherscan](#) [view on Blockscout](#)

[block:8174453 txIndex:12] from: 0xba1...20c18 to: SimpleCalculator.calculateSum() 0x84c...40a58 value: 0 wei data: 0x9dc...0b491 logs: 1  
hash: 0xee7...8ff3b

Debug

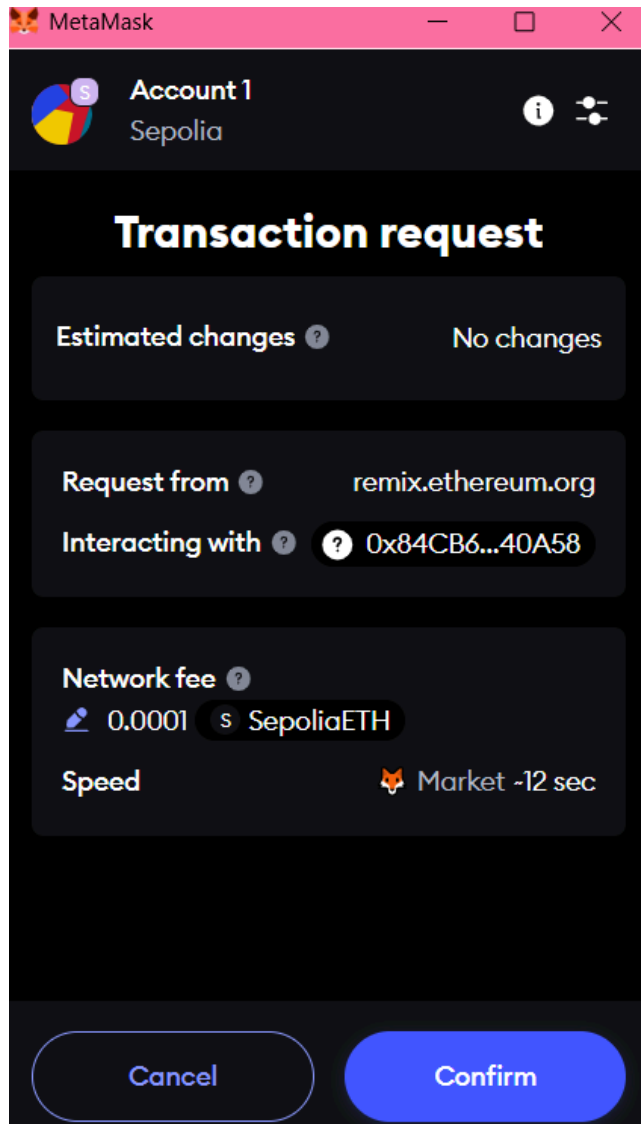
status 0x1 Transaction mined and execution succeed

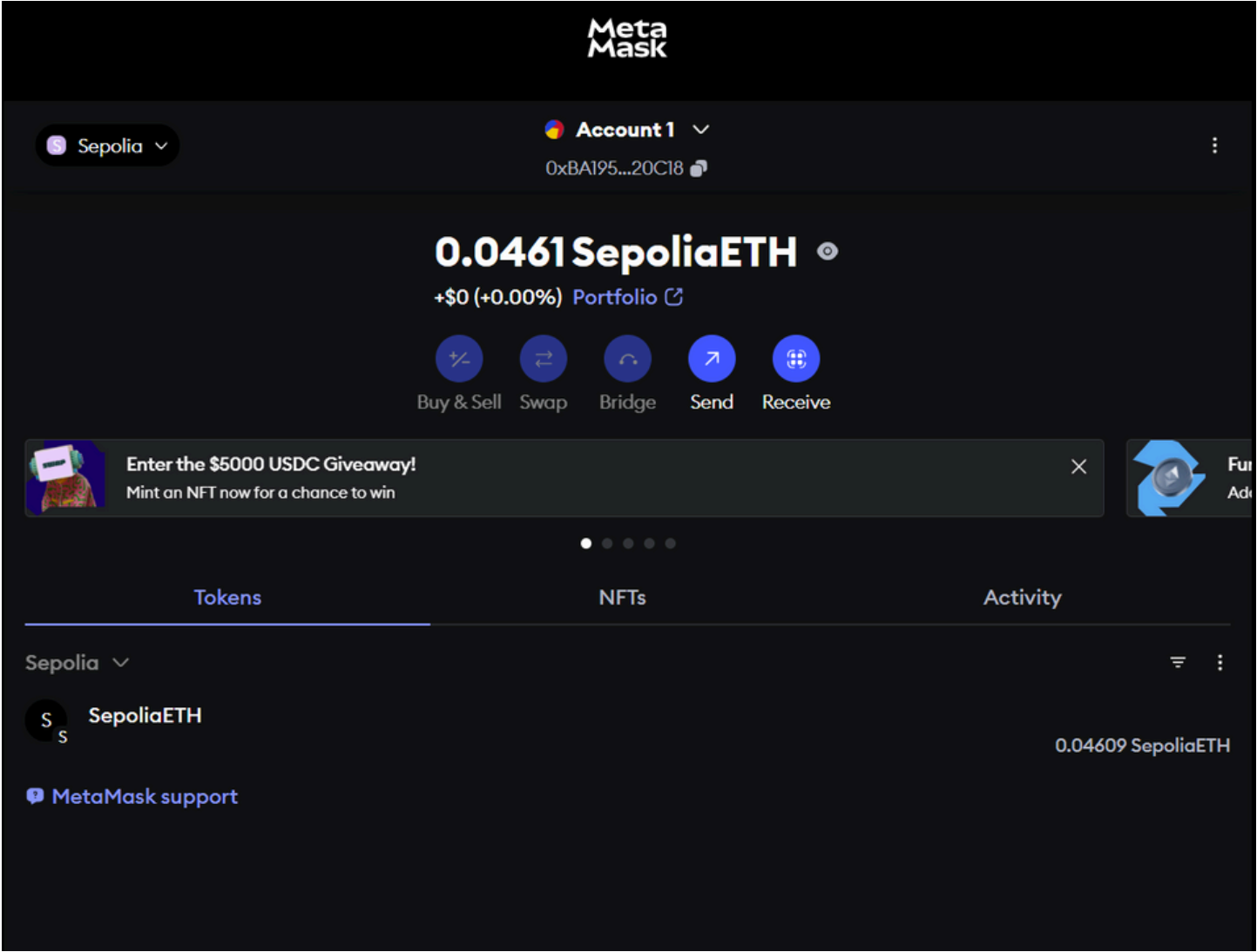
transaction hash 0x5d76631ddb8df6837c21b3c5ca00d60e09da93b843a4d0424764067f8c1f5c6f

block hash 0xee7700b2e4cfa990a1274b98f7f9e4ac27c5d3ab718b752bec667f9a148ff3b

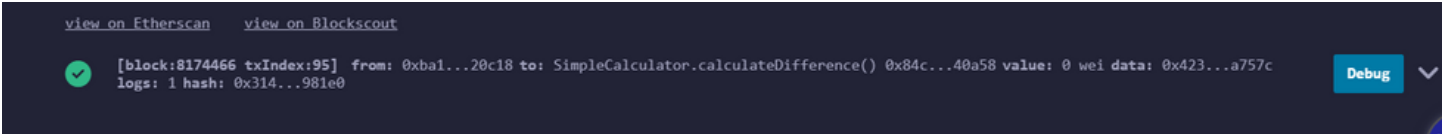
block number 8174453

calculateDifference()



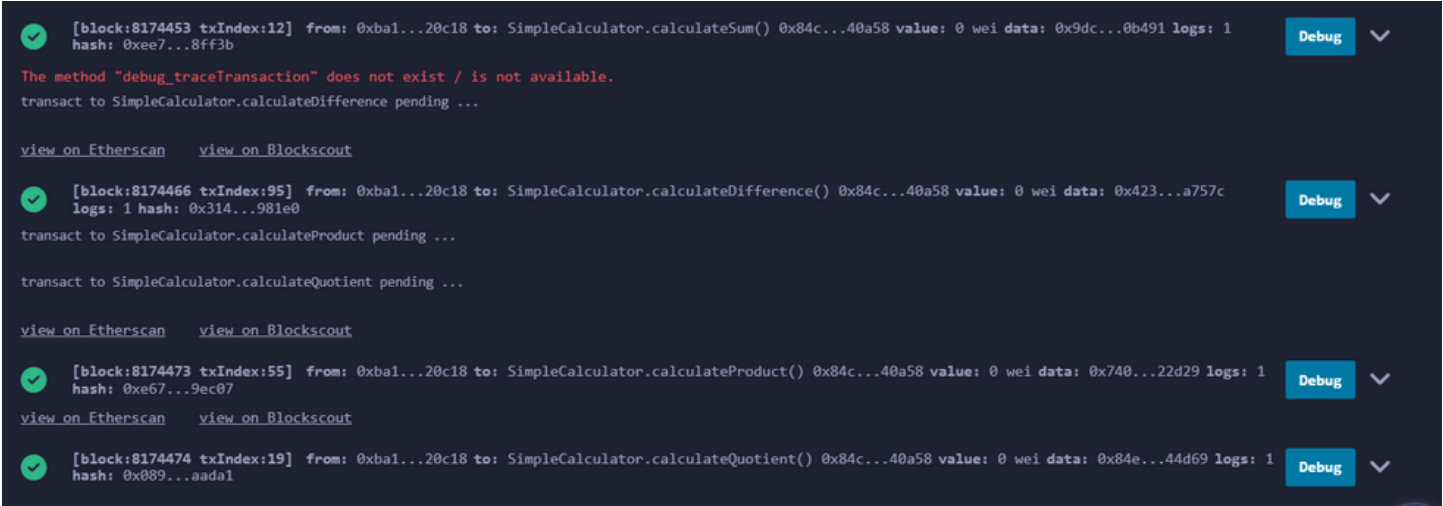


Check the Logs section below. The results will appear there using the emit events.



All the same steps are repeated again in the remaining functions.

Result in Log:



The result in MetaMask after discount all transactions

MetaMask

Sepolia

Account 1

0xBA195...20C18

0.0459 SepoliaETH

+\$0 (+0.00%)

Portfolio

Buy & Sell

Swap

Bridge

Send

Receive

Enter the \$5000 USDC Giveaway!

Mint an NFT now for a chance to win

Tokens

NFTs

Activity

Sepolia

SepoliaETH

0.04587 SepoliaETH

MetaMask support