PROGRAMMING FOR SMART CONTRACT

Project work

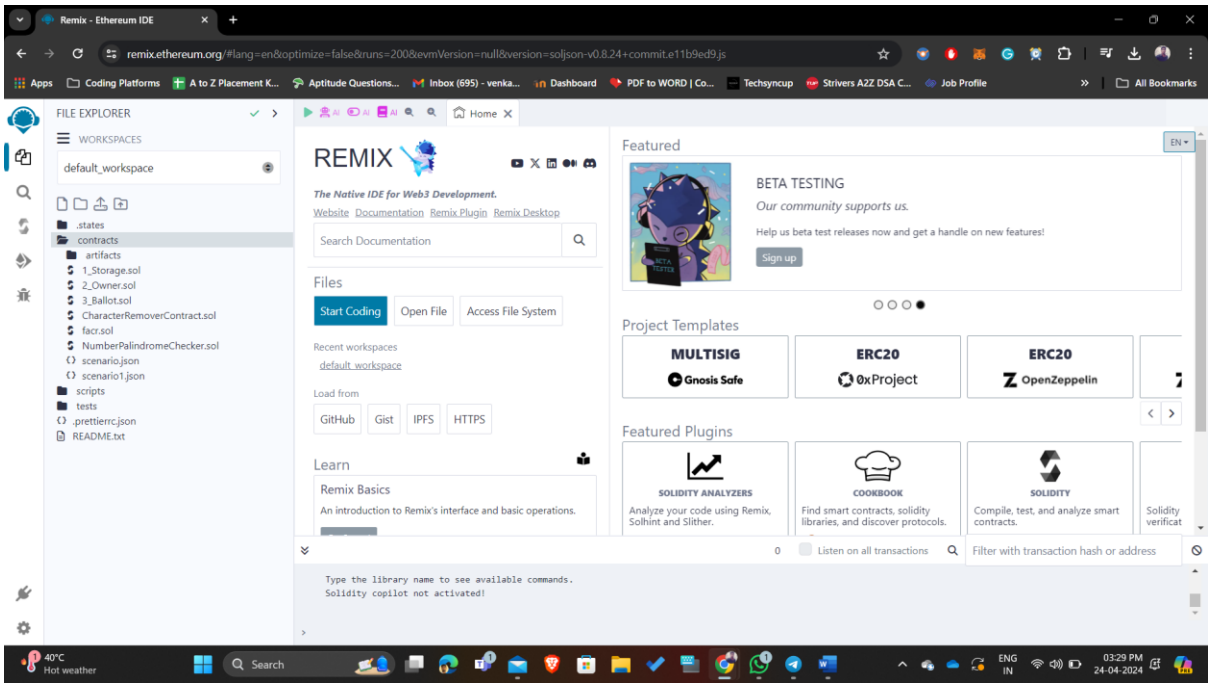
Reverse a String

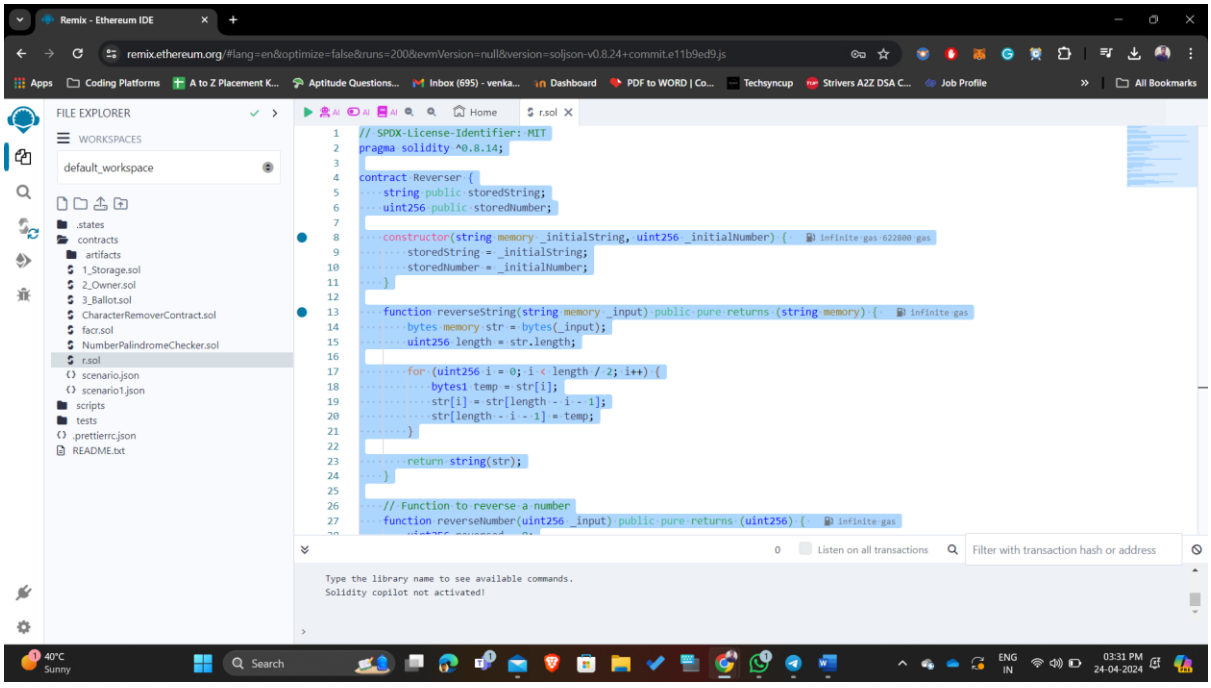
Id No : 2100030406

Name : P.M.S.Venkatesh

Reverse a String smart contract using solidity

Code and Procedure:

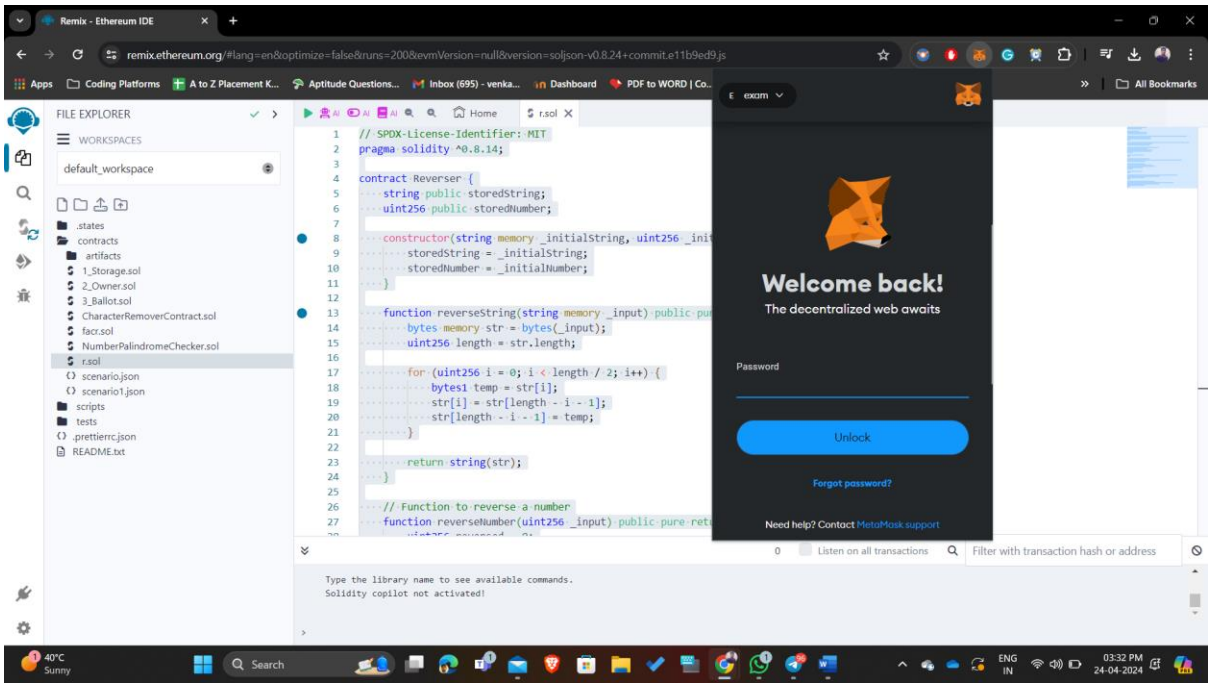


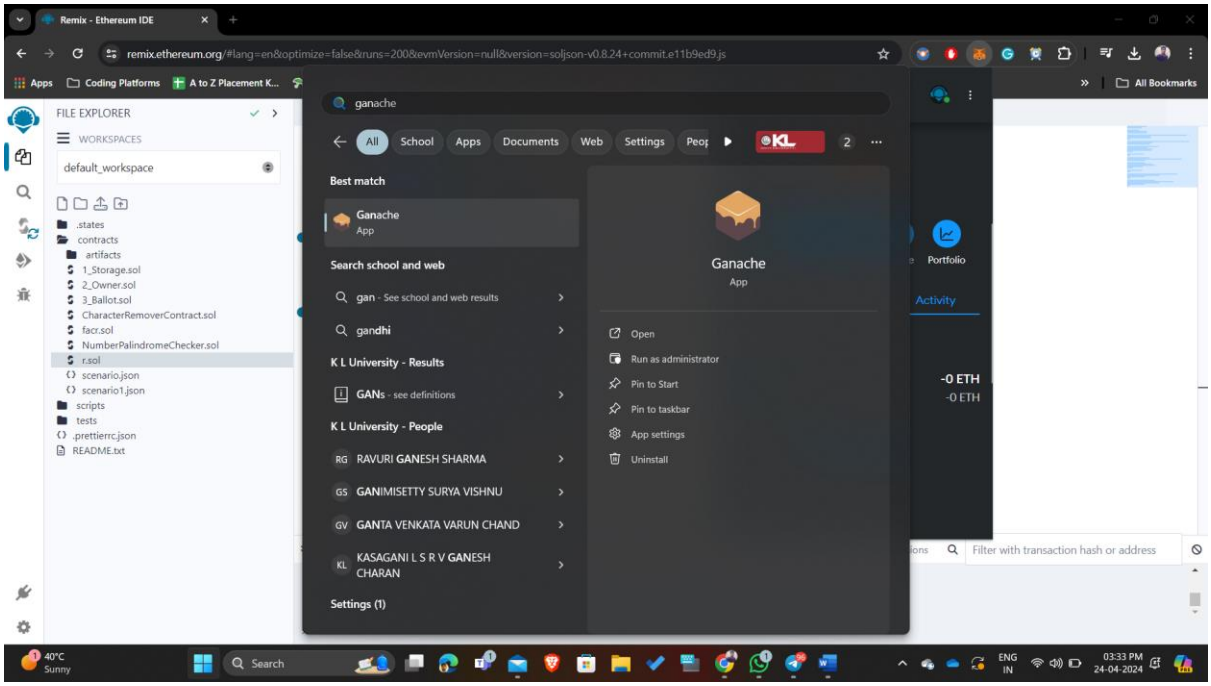


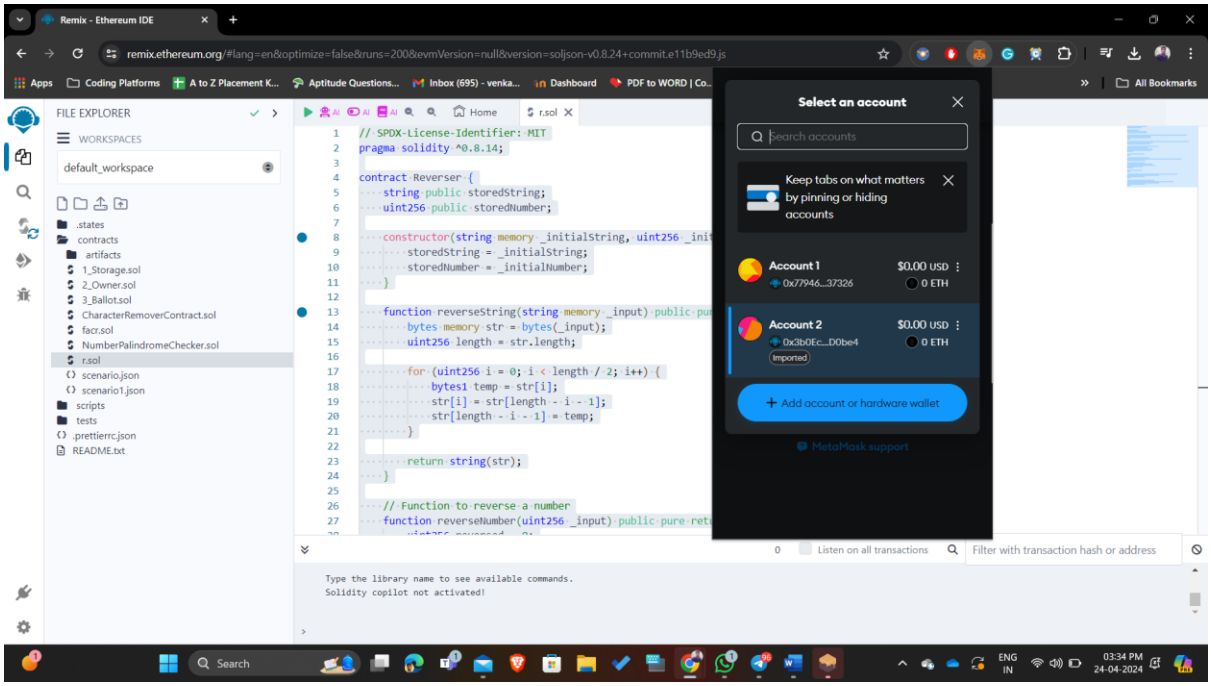
Code

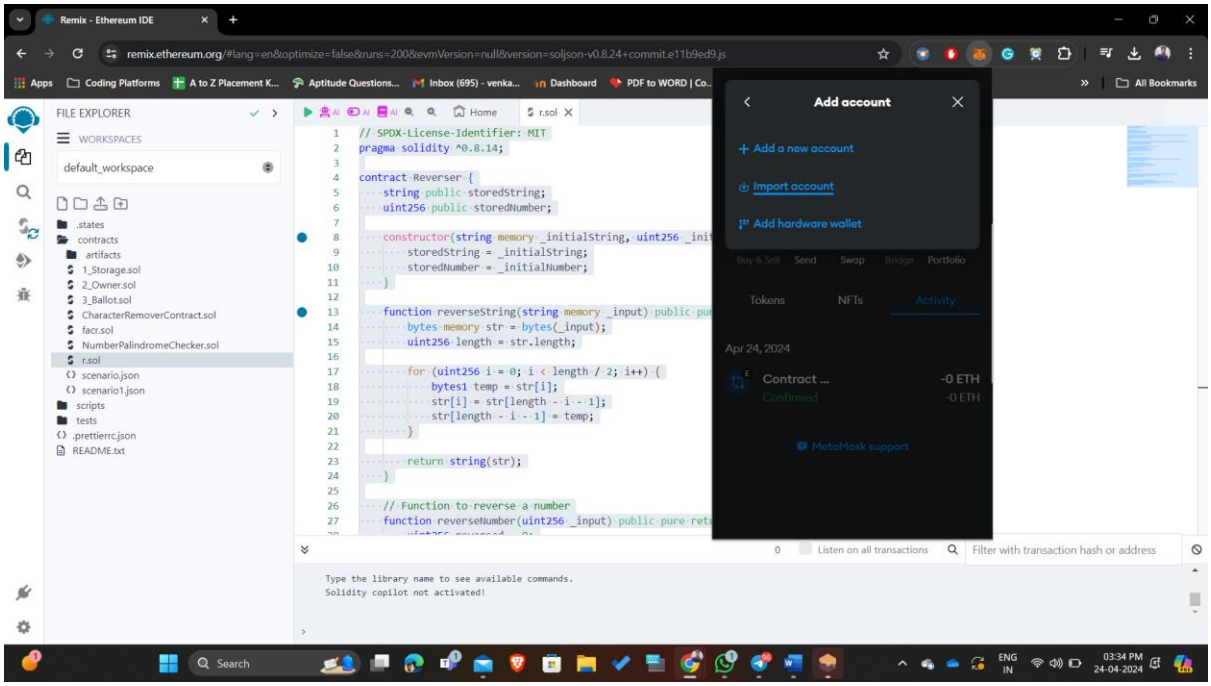
```
// SPDX-License-Identifier: MIT
pragma solidity ^0.8.14;

contract Reverser {
    string public storedString;
    uint256 public storedNumber;

    constructor(string memory _initialString, uint256 _initialNumber) {
        storedString = _initialString;
        storedNumber = _initialNumber;
    }

    function reverseString(string memory _input) public pure returns (string
memory) {
        bytes memory str = bytes(_input);
        uint256 length = str.length;

        for (uint256 i = 0; i < length / 2; i++) {
            bytes1 temp = str[i];
            str[i] = str[length - i - 1];
            str[length - i - 1] = temp;
        }

        return string(str);
    }

    // Function to reverse a number
    function reverseNumber(uint256 _input) public pure returns (uint256) {
        uint256 reversed = 0;

        while (_input > 0) {
            uint256 digit = _input % 10;
            reversed = reversed * 10 + digit;
            _input /= 10;
        }

        return reversed;
    }

    function reverseStoredString() public returns (string memory) {
        storedString = reverseString(storedString);
        return storedString;
    }

    // Function to reverse the stored number
    function reverseStoredNumber() public returns (uint256) {
```

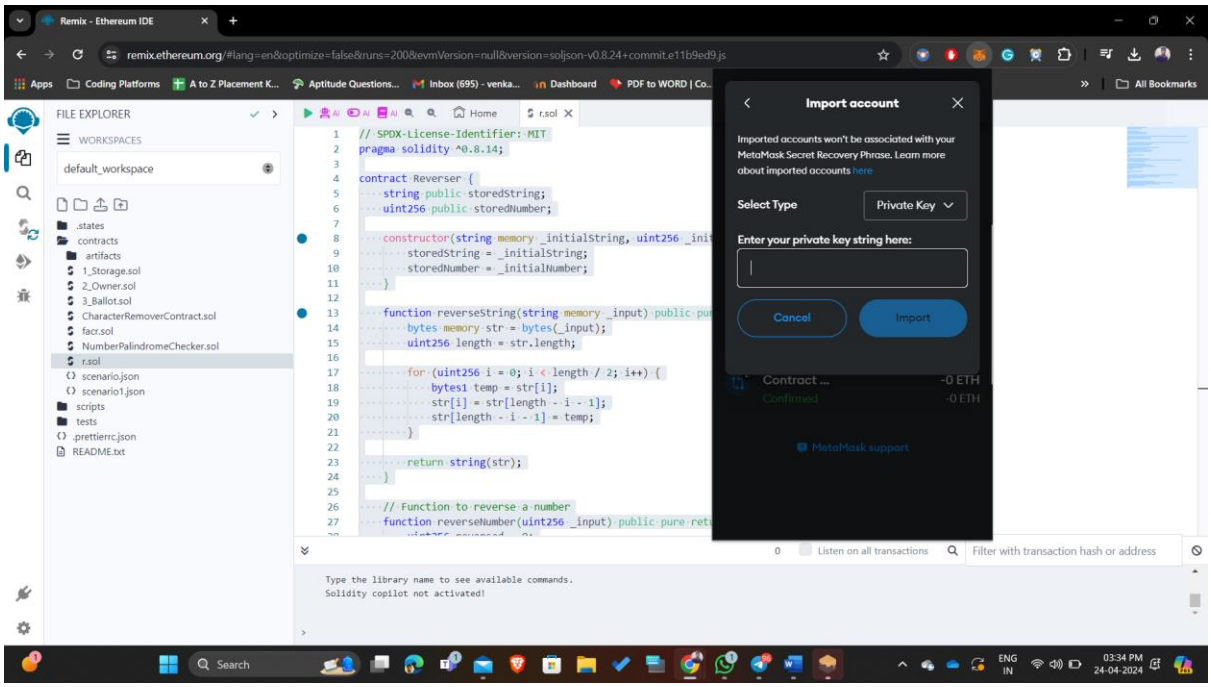
```
        storedNumber = reverseNumber(storedNumber);
        return storedNumber;
    }
}
```

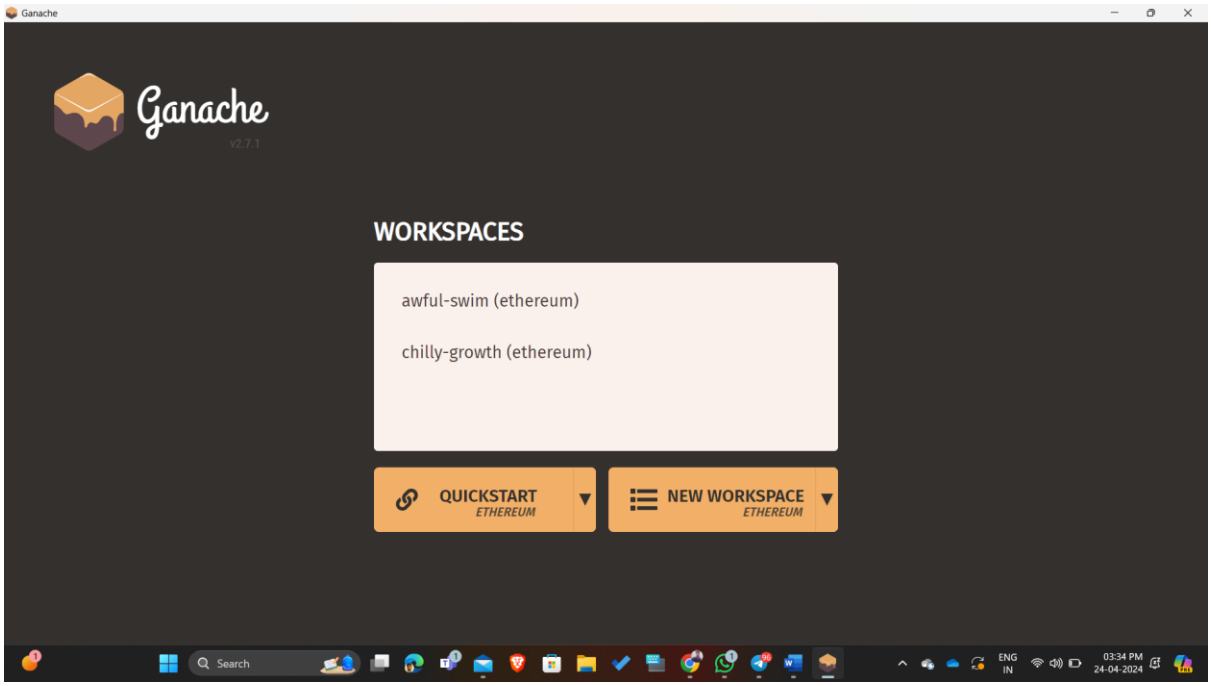


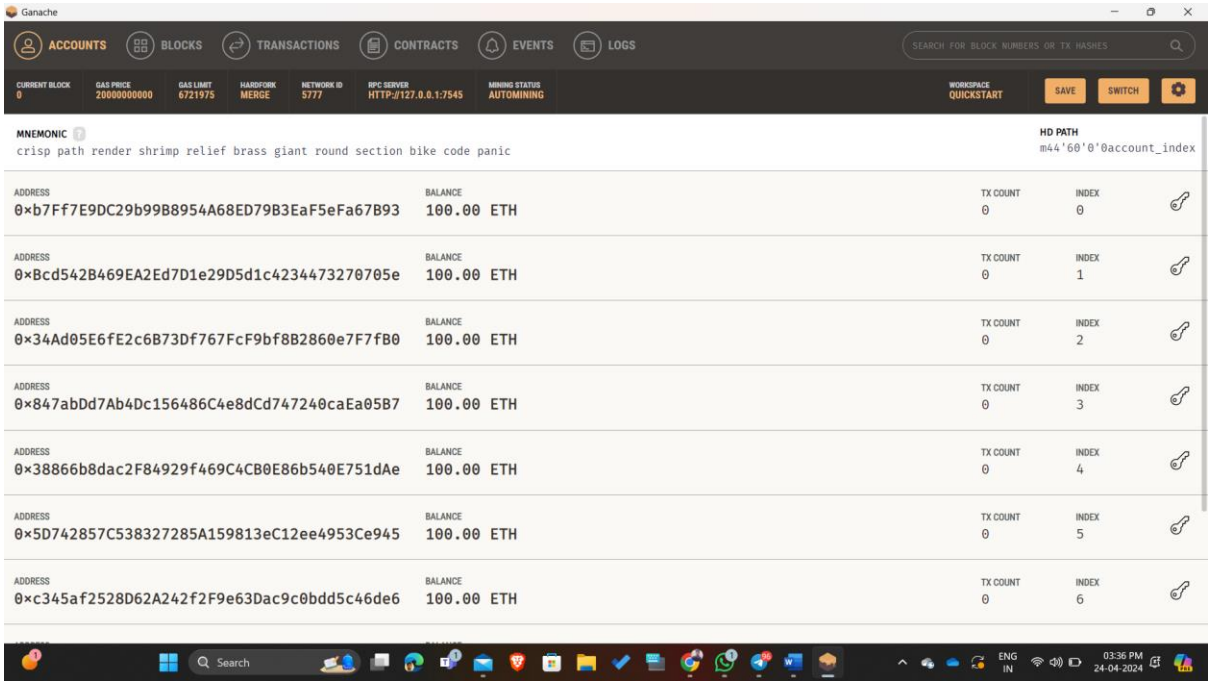

Remix - Ethereum IDE
remix.ethereum.org/#lang=en&optimize=false&runs=200&evmVersion=null&version=soljson-v0.8.24+commit.e11b9ed9.js
FILE EXPLORER
WORKSPACES
default_workspace
ganache
All
School
Apps
Documents
Web
Settings
Best match
Ganache
App
Search school and web
gan - See school and web results
gandhi
K L University - Results
GANs - see definitions
K L University - People
RAVURI GANESH SHARMA
GANIMISETTY SURYA VISHNU
GANTA VENKATA VARUN CHAND
KASAGANI L S R V GANESH CHARAN
Settings (1)
Open
Run as administrator
Pin to Start
Pin to taskbar
App settings
Uninstall
Portfolio
Activity
-0 ETH
Filter with transaction hash or address
Search
ENG
IN
03:33 PM
24-04-2024

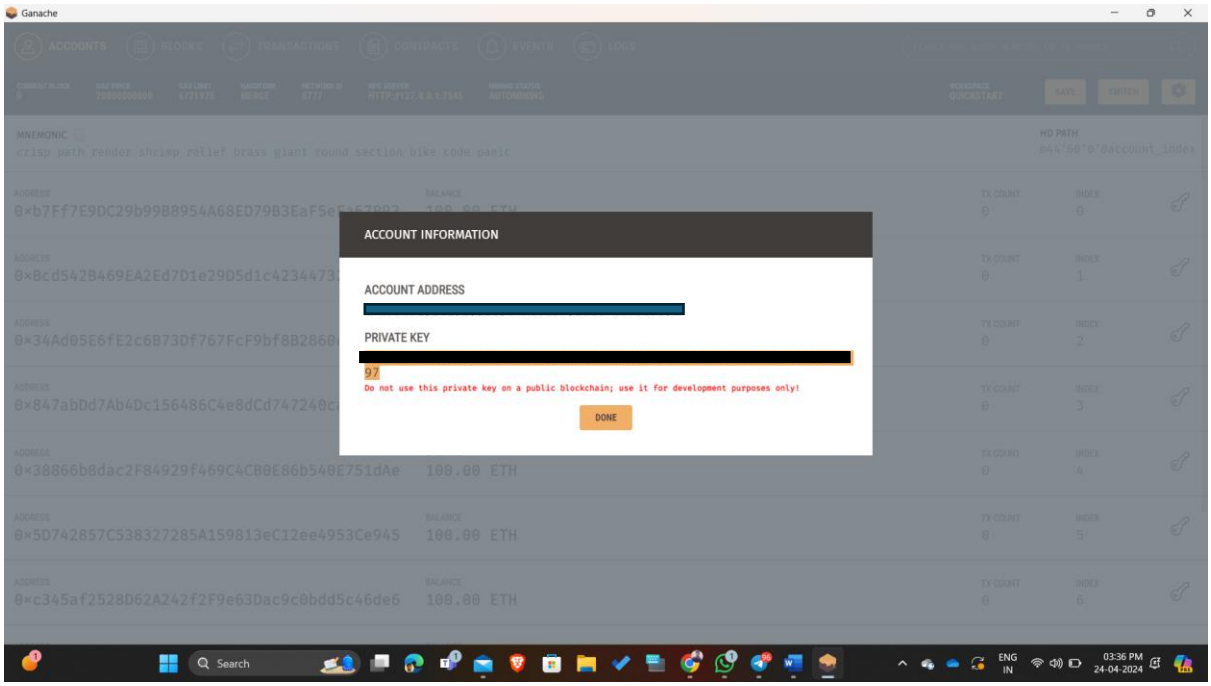

Remix - Ethereum IDE
remix.ethereum.org/#lang=en&optimize=false&runs=200&evmVersion=null&version=soljson-v0.8.24+commit.e11b9ed9.js
FILE EXPLORER
WORKSPACES
default_workspace
Home
r.sol
// SPDX-License-Identifier: MIT
pragma solidity ^0.8.14;
contract Reverser {
string public storedString;
uint256 public storedNumber;
constructor(string memory _initialString, uint256 _ini
storedString = _initialString;
storedNumber = _initialNumber;
}
function reverseString(string memory _input) public pur
bytes memory str = bytes(_input);
uint256 length = str.length;
for (uint256 i = 0; i < length / 2; i++) {
bytes1 temp = str[i];
str[i] = str[length - i - 1];
str[length - i - 1] = temp;
}
return string(str);
}
// Function to reverse a number
function reverseNumber(uint256 _input) public pure retu
Select an account
Search accounts
Keep tabs on what matters by pinning or hiding accounts
Account 1
0x77946...37326
$0.00 USD
0 ETH
Account 2
0x3b0Ec...D0be4
Imported
$0.00 USD
0 ETH
+ Add account or hardware wallet
MetaMask support
Listen on all transactions
Filter with transaction hash or address
Type the library name to see available commands.
Solidity copilot not activated!
Search
ENG
IN
03:34 PM
24-04-2024

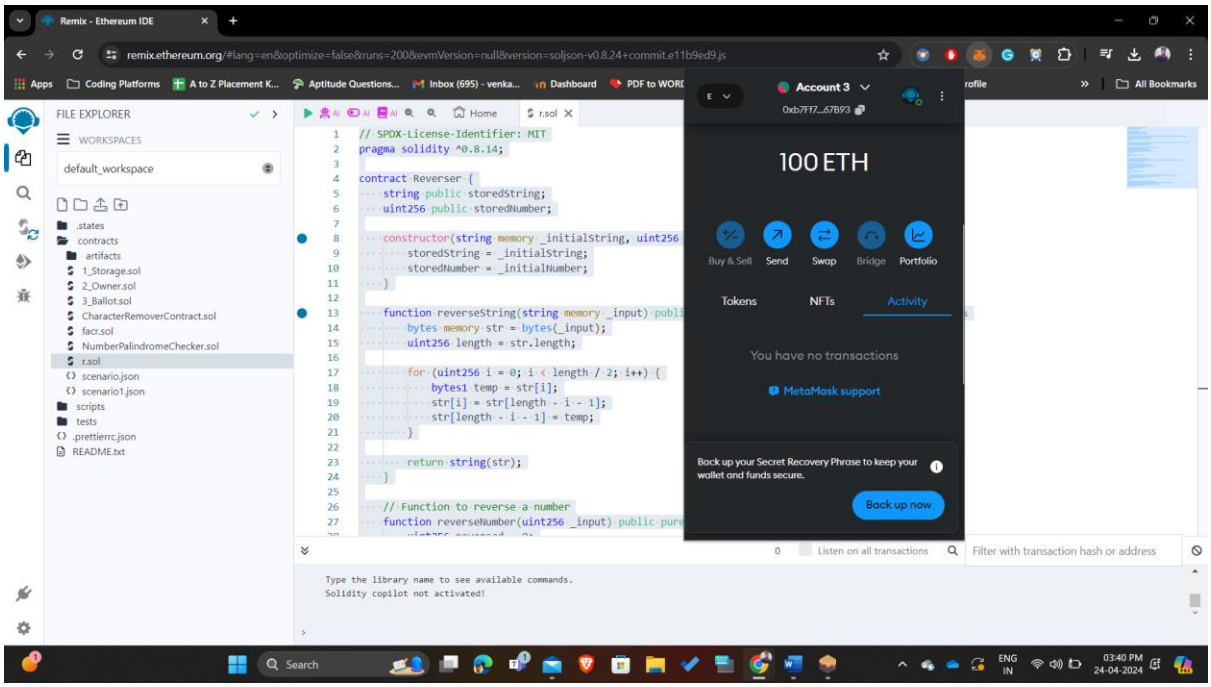

Remix - Ethereum IDE
remix.ethereum.org/#lang=en&optimize=false&runs=200&evmVersion=null&version=soljson-v0.8.24+commit.e11b9ed9.js
FILE EXPLORER
WORKSPACES
default_workspace
.states
contracts
artifacts
1_Storage.sol
2_Owner.sol
3_Ballot.sol
CharacterRemoverContract.sol
facr.sol
NumberPalindromeChecker.sol
r.sol
scenario.json
scenario1.json
scripts
tests
.prettierrc.json
README.txt
// SPDX-License-Identifier: MIT
pragma solidity ^0.8.14;
contract Reverser {
string public storedString;
uint256 public storedNumber;
constructor(string memory _initialString, uint256 _init
storedString = _initialString;
storedNumber = _initialNumber;
}
function reverseString(string memory _input) public pu
bytes memory str = bytes(_input);
uint256 length = str.length;
for (uint256 i = 0; i < length / 2; i++) {
bytes1 temp = str[i];
str[i] = str[length - i - 1];
str[length - i - 1] = temp;
}
return string(str);
}
// Function to reverse a number
function reverseNumber(uint256 _input) public pure retu
Add account
Add a new account
Import account
Add hardware wallet
Buy & Sell
Send
Swap
Bridge
Portfolio
Tokens
NFTs
Activity
Apr 24, 2024
Contract ...
-0 ETH
Confirmed
-0 ETH
MetaMask support
Listen on all transactions
Filter with transaction hash or address
Type the library name to see available commands.
Solidity copilot not activated!
Search
ENG
IN
03:34 PM
24-04-2024

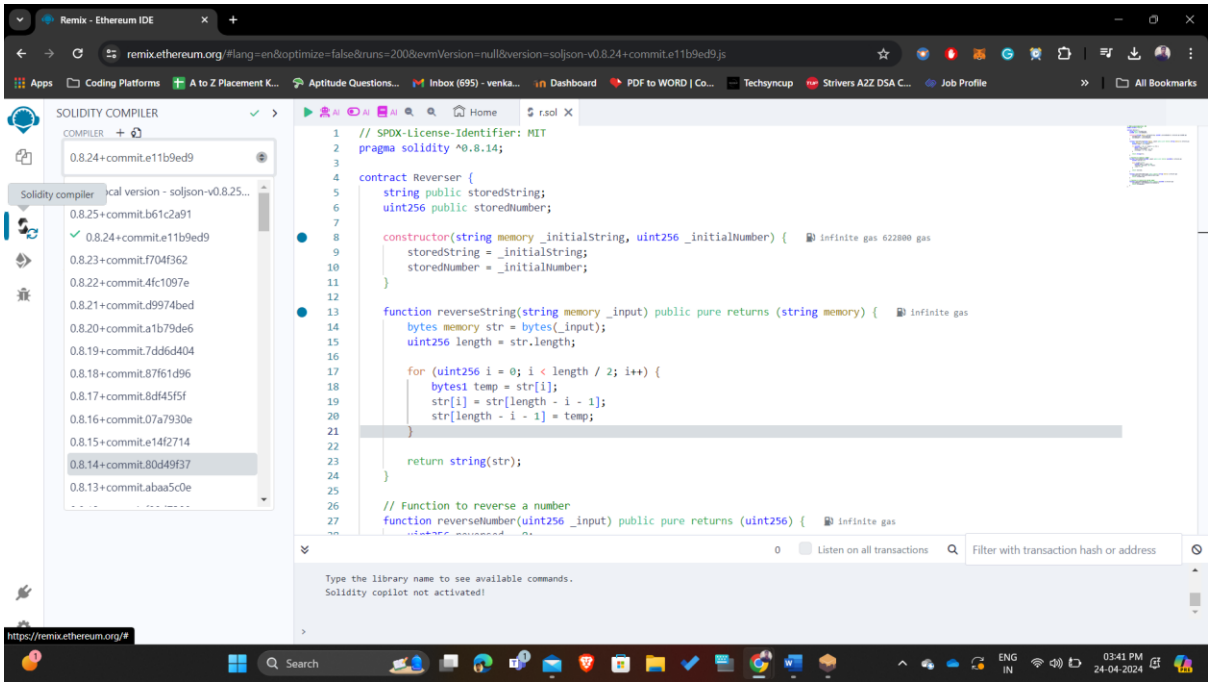

Remix - Ethereum IDE
remix.ethereum.org/#lang=en&optimize=false&runs=200&evmVersion=null&version=soljson-v0.8.24+commit.e11b9ed9.js
FILE EXPLORER
WORKSPACES
default_workspace
.states
contracts
artifacts
1_Storage.sol
2_Owner.sol
3_Ballot.sol
CharacterRemoverContract.sol
facr.sol
NumberPalindromeChecker.sol
r.sol
scenario.json
scenario1.json
scripts
tests
.prettierrc.json
README.txt
// SPDX-License-Identifier: MIT
pragma solidity ^0.8.14;
contract Reverser {
string public storedString;
uint256 public storedNumber;
constructor(string memory _initialString, uint256 _init
storedString = _initialString;
storedNumber = _initialNumber;
}
function reverseString(string memory _input) public pu
bytes memory str = bytes(_input);
uint256 length = str.length;
for (uint256 i = 0; i < length / 2; i++) {
bytes1 temp = str[i];
str[i] = str[length - i - 1];
str[length - i - 1] = temp;
}
return string(str);
}
// Function to reverse a number
function reverseNumber(uint256 _input) public pure retu
Import account
Imported accounts won't be associated with your MetaMask Secret Recovery Phrase. Learn more about imported accounts here
Select Type
Private Key
Enter your private key string here:
Cancel
Import
Contract ...
-0 ETH
Confirmed
-0 ETH
MetaMask support
Listen on all transactions
Filter with transaction hash or address
Type the library name to see available commands.
Solidity copilot not activated!
Search
ENG
IN
03:34 PM
24-04-2024

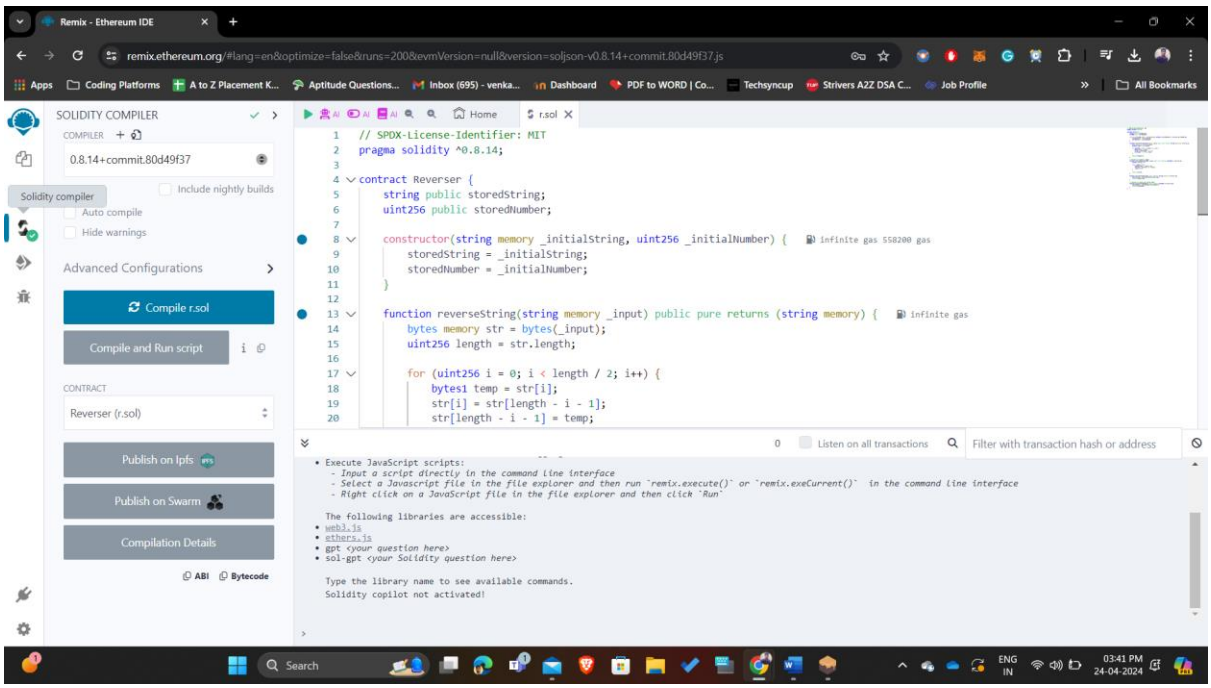

Ganache
Ganache
v2.7.1
WORKSPACES
awful-swim (ethereum)
chilly-growth (ethereum)
QUICKSTART
ETHEREUM
NEW WORKSPACE
ETHEREUM
Search
ENG
IN
03:34 PM
24-04-2024

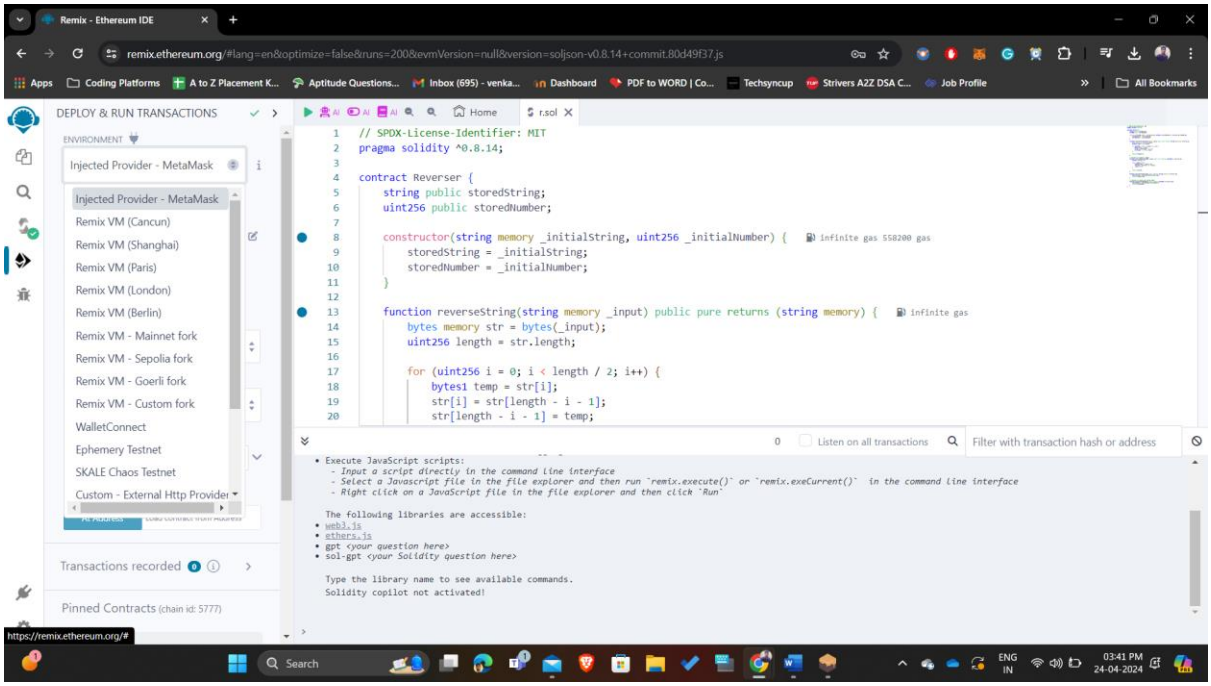

Ganache
ACCOUNTS
BLOCKS
TRANSACTIONS
CONTRACTS
EVENTS
LOGS
SEARCH FOR BLOCK NUMBERS OR TX HASHES
CURRENT BLOCK 0
GAS PRICE 20000000000
GAS LIMIT 6721975
HARDFORK MERGE
NETWORK ID 5777
RPC SERVER HTTP://127.0.0.1:7545
MINING STATUS AUTOMINING
WORKSPACE QUICKSTART
SAVE
SWITCH
MNEMONIC
crisp path render shrimp relief brass giant round section bike code panic
HD PATH
m44'60'0'0account_index
ADDRESS 0×b7Ff7E9DC29b99B8954A68ED79B3EaF5eFa67B93 BALANCE 100.00 ETH TX COUNT 0 INDEX 0
ADDRESS 0×Bcd542B469EA2Ed7D1e29D5d1c4234473270705e BALANCE 100.00 ETH TX COUNT 0 INDEX 1
ADDRESS 0×34Ad05E6fE2c6B73Df767FcF9bf8B2860e7F7fB0 BALANCE 100.00 ETH TX COUNT 0 INDEX 2
ADDRESS 0×847abDd7Ab4Dc156486C4e8dCd747240caEa05B7 BALANCE 100.00 ETH TX COUNT 0 INDEX 3
ADDRESS 0×38866b8dac2F84929f469C4CB0E86b540E751dAe BALANCE 100.00 ETH TX COUNT 0 INDEX 4
ADDRESS 0×5D742857C538327285A159813eC12ee4953Ce945 BALANCE 100.00 ETH TX COUNT 0 INDEX 5
ADDRESS 0×c345af2528D62A242f2F9e63Dac9c0bdd5c46de6 BALANCE 100.00 ETH TX COUNT 0 INDEX 6
Search
ENG
IN
03:36 PM
24-04-2024

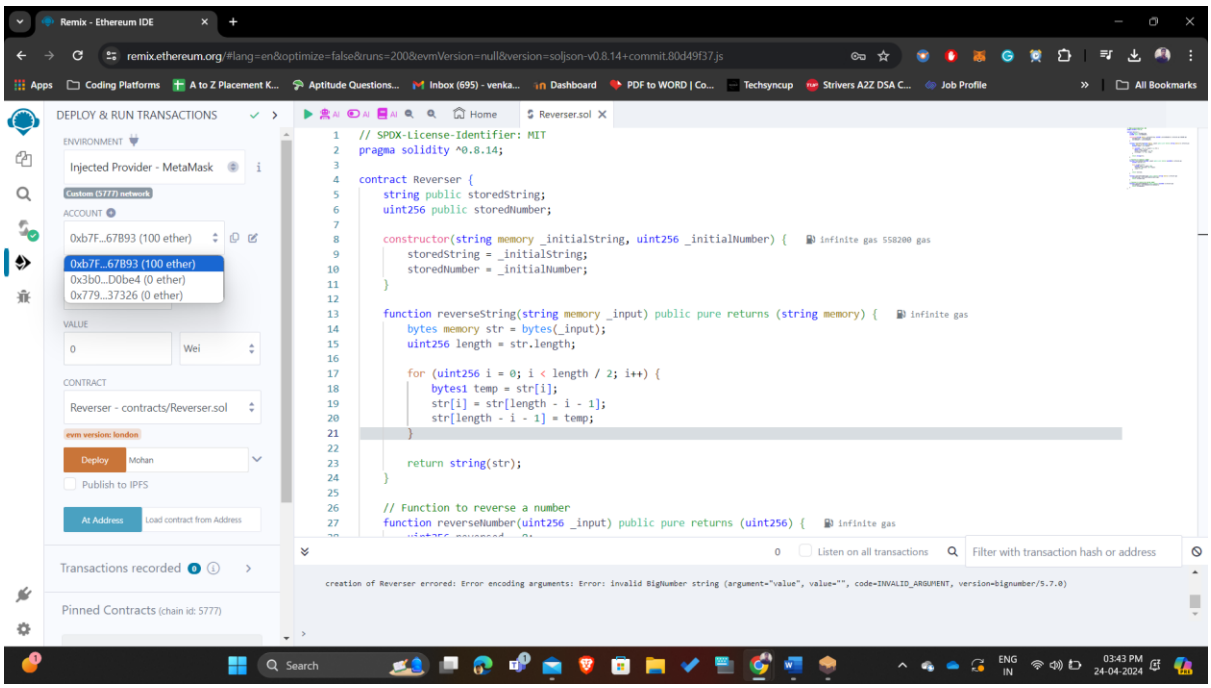

Ganache
ACCOUNT INFORMATION
ACCOUNT ADDRESS
PRIVATE KEY
97
Do not use this private key on a public blockchain; use it for development purposes only!
DONE
0×b7Ff7E9DC29b99B8954A68ED79B3EaF5e
0×Bcd542B469EA2Ed7D1e29D5d1c4234473
0×34Ad05E6fE2c6B73Df767FcF9bf8B2860
0×847abDd7Ab4Dc156486C4e8dCd747240c
0×38866b8dac2F84929f469C4CB0E86b540E751dAe 100.00 ETH
0×5D742857C538327285A159813eC12ee4953Ce945 100.00 ETH
0×c345af2528D62A242f2F9e63Dac9c0bdd5c46de6 100.00 ETH
Search
ENG
IN
03:36 PM
24-04-2024

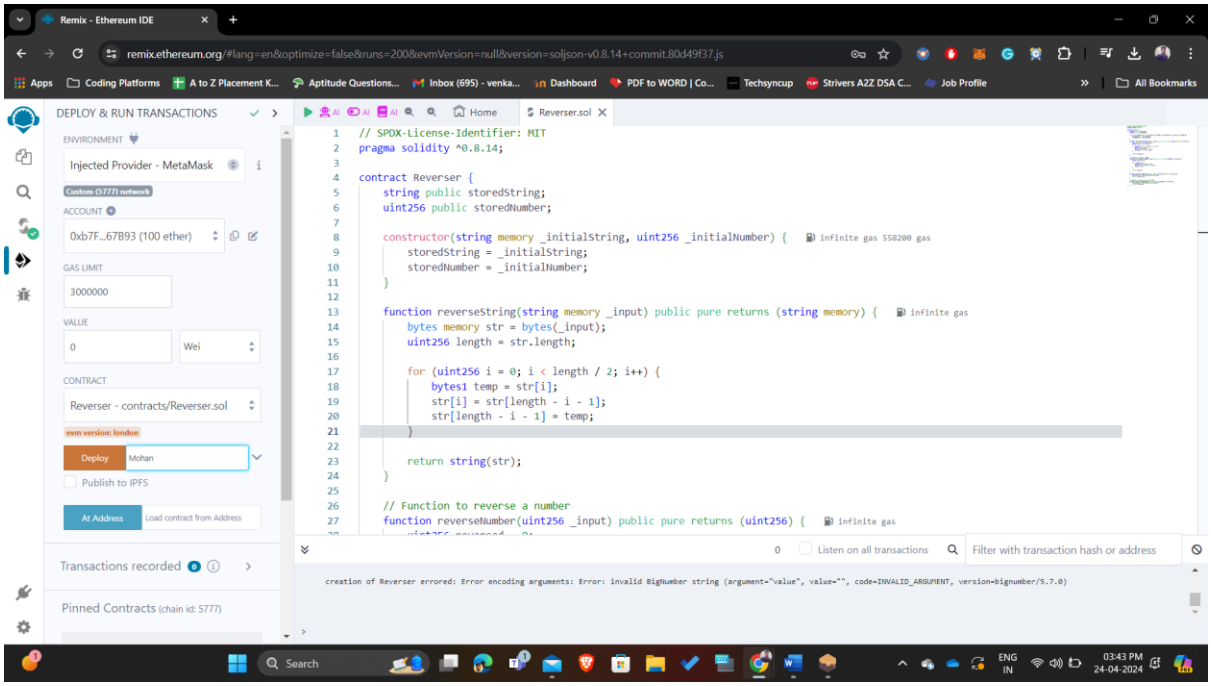

Remix - Ethereum IDE
remix.ethereum.org/#lang=en&optimize=false&runs=200&evmVersion=null&version=soljson-v0.8.24+commit.e11b9ed9.js
FILE EXPLORER
WORKSPACES
default_workspace
.states
contracts
artifacts
1_Storage.sol
2_Owner.sol
3_Ballot.sol
CharacterRemoverContract.sol
facr.sol
NumberPalindromeChecker.sol
r.sol
scenario.json
scenario1.json
scripts
tests
.prettierrc.json
README.txt
// SPDX-License-Identifier: MIT
pragma solidity ^0.8.14;
contract Reverser {
string public storedString;
uint256 public storedNumber;
constructor(string memory _initialString, uint256
storedString = _initialString;
storedNumber = _initialNumber;
}
function reverseString(string memory _input) publi
bytes memory str = bytes(_input);
uint256 length = str.length;
for (uint256 i = 0; i < length / 2; i++) {
bytes1 temp = str[i];
str[i] = str[length - i - 1];
str[length - i - 1] = temp;
}
return string(str);
}
// Function to reverse a number
function reverseNumber(uint256 _input) public pure
Account 3
0xb7FF7...67B93
100 ETH
Buy & Sell
Send
Swap
Bridge
Portfolio
Tokens
NFTs
Activity
You have no transactions
MetaMask support
Back up your Secret Recovery Phrase to keep your wallet and funds secure.
Back up now
Listen on all transactions
Filter with transaction hash or address
Type the library name to see available commands.
Solidity copilot not activated!
Search
ENG
IN
03:40 PM
24-04-2024

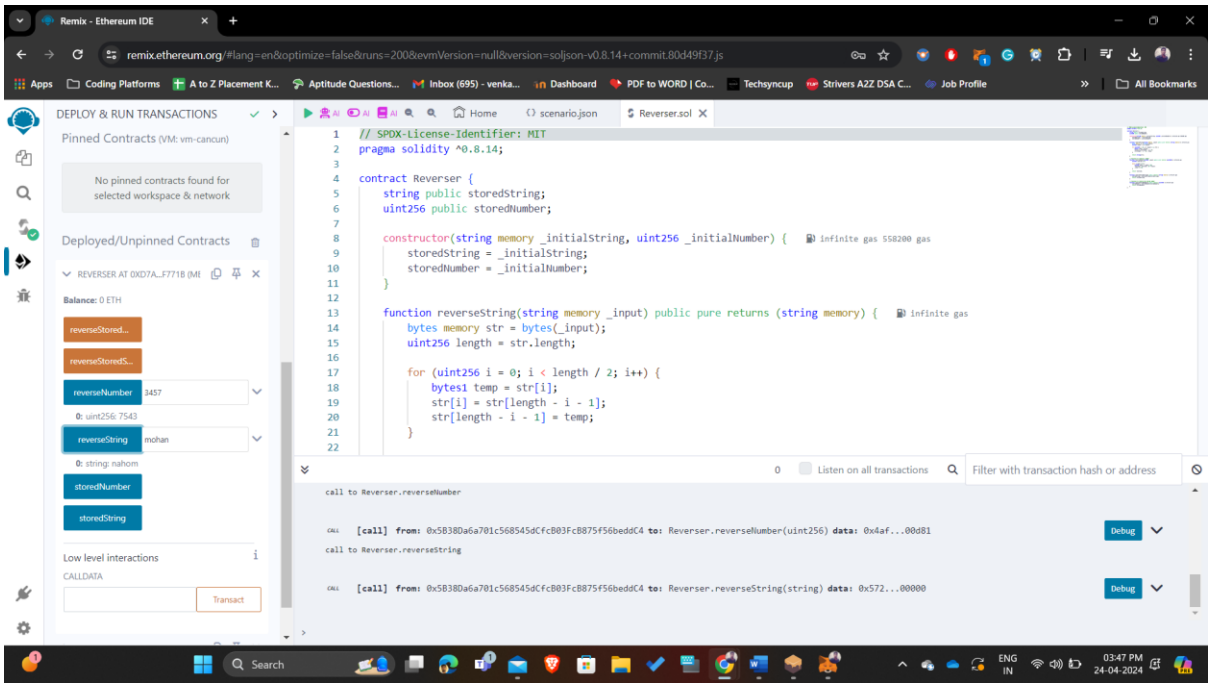

Remix - Ethereum IDE
remix.ethereum.org/#lang=en&optimize=false&runs=200&evmVersion=null&version=soljson-v0.8.24+commit.e11b9ed9.js
SOLIDITY COMPILER
0.8.24+commit.e11b9ed9
Solidity compiler
0.8.25+commit.b61c2a91
0.8.24+commit.e11b9ed9
0.8.23+commit.f704f362
0.8.22+commit.4fc1097e
0.8.21+commit.d9974bed
0.8.20+commit.a1b79de6
0.8.19+commit.7dd6d404
0.8.18+commit.87f61d96
0.8.17+commit.8df45f5f
0.8.16+commit.07a7930e
0.8.15+commit.e14f2714
0.8.14+commit.80d49f37
0.8.13+commit.abaa5c0e
r.sol
// SPDX-License-Identifier: MIT
pragma solidity ^0.8.14;
contract Reverser {
string public storedString;
uint256 public storedNumber;
constructor(string memory _initialString, uint256 _initialNumber) { infinite gas 622800 gas
storedString = _initialString;
storedNumber = _initialNumber;
}
function reverseString(string memory _input) public pure returns (string memory) { infinite gas
bytes memory str = bytes(_input);
uint256 length = str.length;
for (uint256 i = 0; i < length / 2; i++) {
bytes1 temp = str[i];
str[i] = str[length - i - 1];
str[length - i - 1] = temp;
}
return string(str);
}
// Function to reverse a number
function reverseNumber(uint256 _input) public pure returns (uint256) { infinite gas
Listen on all transactions
Filter with transaction hash or address
Type the library name to see available commands.
Solidity copilot not activated!
https://remix.ethereum.org/#
Search
ENG
IN
03:41 PM
24-04-2024

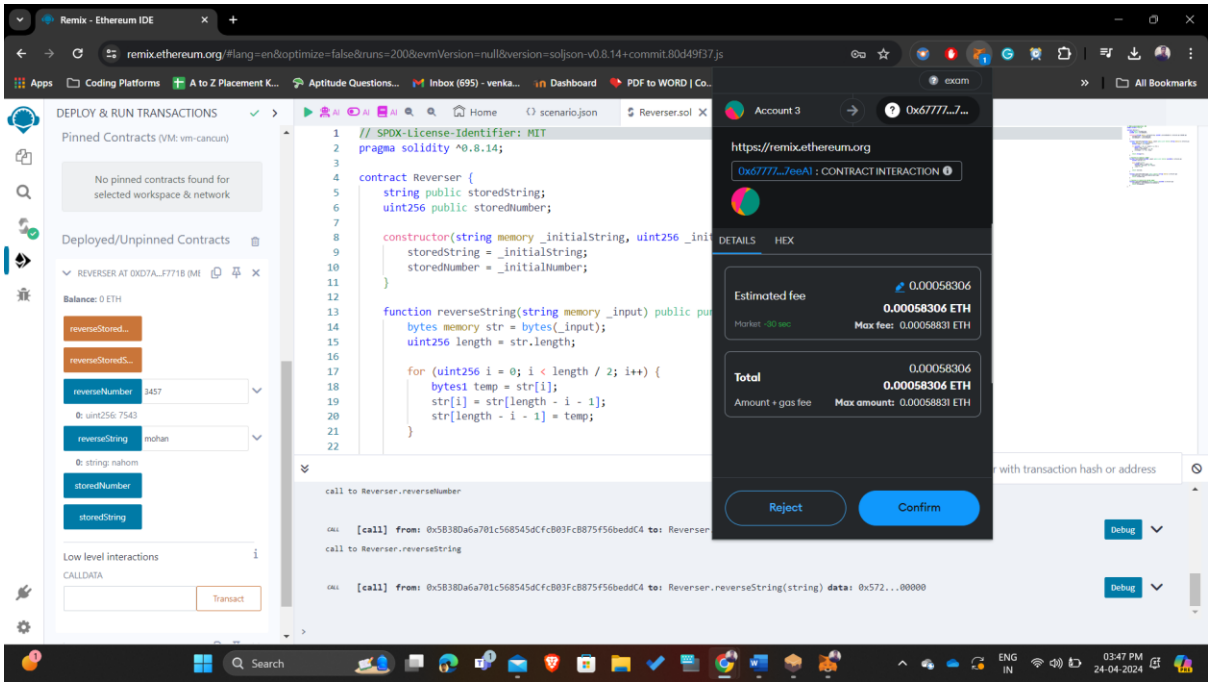

Remix - Ethereum IDE
remix.ethereum.org/#lang=en&optimize=false&runs=200&evmVersion=null&version=soljson-v0.8.14+commit.80d49f37.js
SOLIDITY COMPILER
0.8.14+commit.80d49f37
Solidity compiler
Include nightly builds
Auto compile
Hide warnings
Advanced Configurations
Compile r.sol
Compile and Run script
CONTRACT
Reverser (r.sol)
Publish on Ipfs
Publish on Swarm
Compilation Details
ABI
Bytecode
r.sol
// SPDX-License-Identifier: MIT
pragma solidity ^0.8.14;
contract Reverser {
string public storedString;
uint256 public storedNumber;
constructor(string memory _initialString, uint256 _initialNumber) { infinite gas 558200 gas
storedString = _initialString;
storedNumber = _initialNumber;
}
function reverseString(string memory _input) public pure returns (string memory) { infinite gas
bytes memory str = bytes(_input);
uint256 length = str.length;
for (uint256 i = 0; i < length / 2; i++) {
bytes1 temp = str[i];
str[i] = str[length - i - 1];
str[length - i - 1] = temp;
Listen on all transactions
Filter with transaction hash or address
Execute JavaScript scripts:
- Input a script directly in the command line interface
- Select a Javascript file in the file explorer and then run `remix.execute()` or `remix.exeCurrent()` in the command line interface
- Right click on a JavaScript file in the file explorer and then click `Run`
The following libraries are accessible:
web3.js
ethers.js
gpt <your question here>
sol-gpt <your Solidity question here>
Type the library name to see available commands.
Solidity copilot not activated!
Search
ENG
IN
03:41 PM
24-04-2024

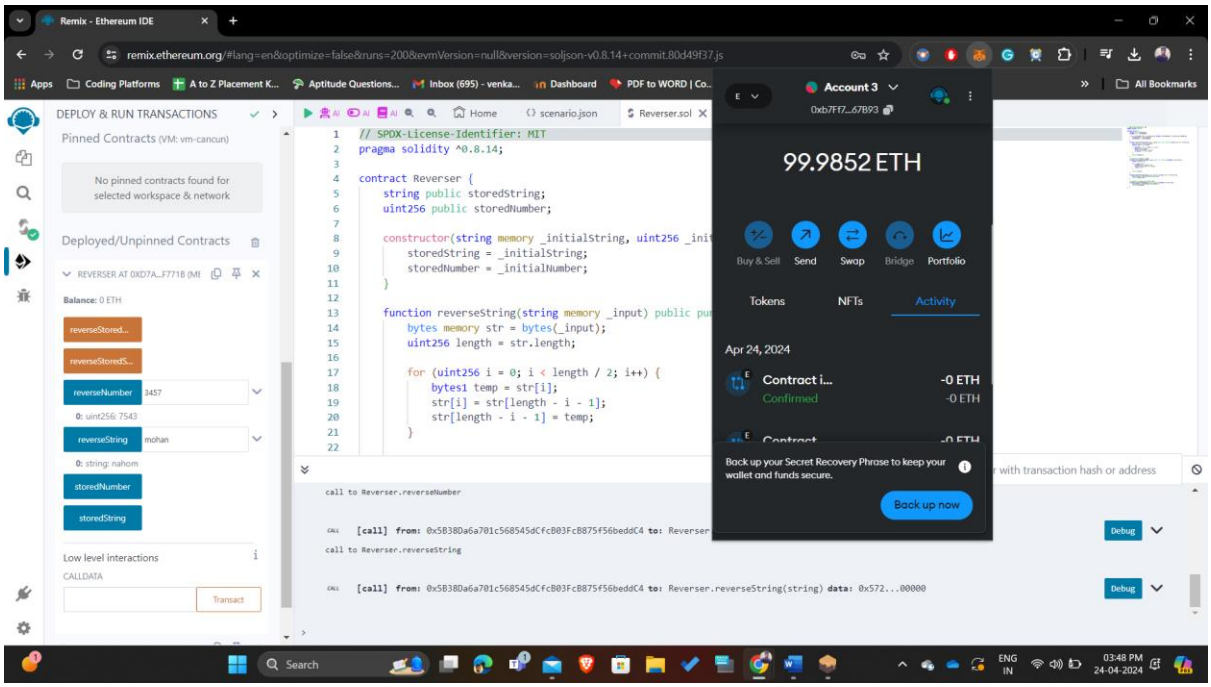

Remix - Ethereum IDE
remix.ethereum.org/#lang=en&optimize=false&runs=200&evmVersion=null&version=soljson-v0.8.14+commit.80d49f37.js
DEPLOY & RUN TRANSACTIONS
ENVIRONMENT
Injected Provider - MetaMask
Injected Provider - MetaMask
Remix VM (Cancun)
Remix VM (Shanghai)
Remix VM (Paris)
Remix VM (London)
Remix VM (Berlin)
Remix VM - Mainnet fork
Remix VM - Sepolia fork
Remix VM - Goerli fork
Remix VM - Custom fork
WalletConnect
Ephemery Testnet
SKALE Chaos Testnet
Custom - External Http Provider
Transactions recorded
Pinned Contracts (chain id: 5777)
Home
r.sol
// SPDX-License-Identifier: MIT
pragma solidity ^0.8.14;
contract Reverser {
string public storedString;
uint256 public storedNumber;
constructor(string memory _initialString, uint256 _initialNumber) { infinite gas 558200 gas
storedString = _initialString;
storedNumber = _initialNumber;
}
function reverseString(string memory _input) public pure returns (string memory) { infinite gas
bytes memory str = bytes(_input);
uint256 length = str.length;
for (uint256 i = 0; i < length / 2; i++) {
bytes1 temp = str[i];
str[i] = str[length - i - 1];
str[length - i - 1] = temp;
0
Listen on all transactions
Filter with transaction hash or address
Execute JavaScript scripts:
Input a script directly in the command line interface
Select a Javascript file in the file explorer and then run `remix.execute()` or `remix.exeCurrent()` in the command line interface
Right click on a JavaScript file in the file explorer and then click `Run`
The following libraries are accessible:
web3.js
ethers.js
gpt <your question here>
sol-gpt <your Solidity question here>
Type the library name to see available commands.
Solidity copilot not activated!
https://remix.ethereum.org/#
Search
ENG
IN
03:41 PM
24-04-2024


Remix - Ethereum IDE
remix.ethereum.org/#lang=en&optimize=false&runs=200&evmVersion=null&version=soljson-v0.8.14+commit.80d49f37.js
DEPLOY & RUN TRANSACTIONS
ENVIRONMENT
Injected Provider - MetaMask
Custom (5777) network
ACCOUNT
0xb7F...67B93 (100 ether)
0xb7F...67B93 (100 ether)
0x3b0...D0be4 (0 ether)
0x779...37326 (0 ether)
VALUE
0
Wei
CONTRACT
Reverser - contracts/Reverser.sol
evm version: london
Deploy
Mohan
Publish to IPFS
At Address
Load contract from Address
Transactions recorded
Pinned Contracts (chain id: 5777)
Home
Reverser.sol
// SPDX-License-Identifier: MIT
pragma solidity ^0.8.14;
contract Reverser {
string public storedString;
uint256 public storedNumber;
constructor(string memory _initialString, uint256 _initialNumber) { infinite gas 558200 gas
storedString = _initialString;
storedNumber = _initialNumber;
}
function reverseString(string memory _input) public pure returns (string memory) { infinite gas
bytes memory str = bytes(_input);
uint256 length = str.length;
for (uint256 i = 0; i < length / 2; i++) {
bytes1 temp = str[i];
str[i] = str[length - i - 1];
str[length - i - 1] = temp;
}
return string(str);
}
// Function to reverse a number
function reverseNumber(uint256 _input) public pure returns (uint256) { infinite gas
0
Listen on all transactions
Filter with transaction hash or address
creation of Reverser errored: Error encoding arguments: Error: invalid BigNumber string (argument="value", value="", code=INVALID_ARGUMENT, version=bignumber/5.7.0)
Search
ENG
IN
03:43 PM
24-04-2024


Remix - Ethereum IDE
remix.ethereum.org/#lang=en&optimize=false&runs=200&evmVersion=null&version=soljson-v0.8.14+commit.80d49f37.js
DEPLOY & RUN TRANSACTIONS
ENVIRONMENT
Injected Provider - MetaMask
ACCOUNT
0xb7F...67B93 (100 ether)
GAS LIMIT
3000000
VALUE
0
Wei
CONTRACT
Reverser - contracts/Reverser.sol
Deploy
Mohan
Publish to IPFS
At Address
Load contract from Address
Transactions recorded
Pinned Contracts (chain id: 5777)
Home
Reverser.sol
// SPDX-License-Identifier: MIT
pragma solidity ^0.8.14;
contract Reverser {
string public storedString;
uint256 public storedNumber;
constructor(string memory _initialString, uint256 _initialNumber) {
storedString = _initialString;
storedNumber = _initialNumber;
}
function reverseString(string memory _input) public pure returns (string memory) {
bytes memory str = bytes(_input);
uint256 length = str.length;
for (uint256 i = 0; i < length / 2; i++) {
bytes1 temp = str[i];
str[i] = str[length - i - 1];
str[length - i - 1] = temp;
}
return string(str);
}
// Function to reverse a number
function reverseNumber(uint256 _input) public pure returns (uint256) {
Listen on all transactions
Filter with transaction hash or address
creation of Reverser errored: Error encoding arguments: Error: invalid BigNumber string (argument="value", value="", code=INVALID_ARGUMENT, version=bignumber/5.7.0)
Search
ENG
IN
03:43 PM
24-04-2024


Remix - Ethereum IDE
remix.ethereum.org/#lang=en&optimize=false&runs=200&evmVersion=null&version=soljson-v0.8.14+commit.80d49f37.js
DEPLOY & RUN TRANSACTIONS
Pinned Contracts (VM: vm-cancun)
No pinned contracts found for selected workspace & network
Deployed/Unpinned Contracts
REVERSER AT 0XD7A...F771B (MI
Balance: 0 ETH
reverseStored...
reverseStoredS...
reverseNumber
3457
0: uint256: 7543
reverseString
mohan
0: string: nahom
storedNumber
storedString
Low level interactions
CALLDATA
Transact
Home
scenario.json
Reverser.sol
// SPDX-License-Identifier: MIT
pragma solidity ^0.8.14;
contract Reverser {
string public storedString;
uint256 public storedNumber;
constructor(string memory _initialString, uint256 _initialNumber) {
storedString = _initialString;
storedNumber = _initialNumber;
}
function reverseString(string memory _input) public pure returns (string memory) {
bytes memory str = bytes(_input);
uint256 length = str.length;
for (uint256 i = 0; i < length / 2; i++) {
bytes1 temp = str[i];
str[i] = str[length - i - 1];
str[length - i - 1] = temp;
}
Listen on all transactions
Filter with transaction hash or address
call to Reverser.reverseNumber
[call] from: 0x5B38Da6a701c568545dCfcB03FcB875f56beddC4 to: Reverser.reverseNumber(uint256) data: 0x4af...00d81
Debug
call to Reverser.reverseString
[call] from: 0x5B38Da6a701c568545dCfcB03FcB875f56beddC4 to: Reverser.reverseString(string) data: 0x572...00000
Debug
Search
ENG
IN
03:47 PM
24-04-2024


Remix - Ethereum IDE
remix.ethereum.org/#lang=en&optimize=false&runs=200&evmVersion=null&version=soljson-v0.8.14+commit.80d49f37.js
DEPLOY & RUN TRANSACTIONS
Pinned Contracts (VM: vm-cancun)
No pinned contracts found for selected workspace & network
Deployed/Unpinned Contracts
Low level interactions
CALLDATA
Transact
// SPDX-License-Identifier: MIT
pragma solidity ^0.8.14;
contract Reverser {
string public storedString;
uint256 public storedNumber;
constructor(string memory _initialString, uint256 _initialNumber) {
storedString = _initialString;
storedNumber = _initialNumber;
}
function reverseString(string memory _input) public pure returns (string memory) {
bytes memory str = bytes(_input);
uint256 length = str.length;
for (uint256 i = 0; i < length / 2; i++) {
bytes1 temp = str[i];
str[i] = str[length - i - 1];
str[length - i - 1] = temp;
}
Account 3
https://remix.ethereum.org
0x67777...7eeA1 : CONTRACT INTERACTION
DETAILS
HEX
Estimated fee
0.00058306
0.00058306 ETH
Max fee: 0.00058831 ETH
Total
0.00058306
0.00058306 ETH
Amount + gas fee
Max amount: 0.00058831 ETH
Reject
Confirm
call to Reverser.reverseNumber
call to Reverser.reverseString
Debug


Remix - Ethereum IDE
remix.ethereum.org/#lang=en&optimize=false&runs=200&evmVersion=null&version=soljson-v0.8.14+commit.80d49f37.js
DEPLOY & RUN TRANSACTIONS
Pinned Contracts (VM: vm-cancun)
No pinned contracts found for selected workspace & network
Deployed/Unpinned Contracts
Low level interactions
CALLDATA
Transact
// SPDX-License-Identifier: MIT
pragma solidity ^0.8.14;
contract Reverser {
string public storedString;
uint256 public storedNumber;
constructor(string memory _initialString, uint256 _initialNumber) {
storedString = _initialString;
storedNumber = _initialNumber;
}
function reverseString(string memory _input) public pure returns (string memory) {
bytes memory str = bytes(_input);
uint256 length = str.length;
for (uint256 i = 0; i < length / 2; i++) {
bytes1 temp = str[i];
str[i] = str[length - i - 1];
str[length - i - 1] = temp;
}
Account 3
0xb7F7...67B93
99.9852 ETH
Buy & Sell
Send
Swap
Bridge
Portfolio
Tokens
NFTs
Activity
Apr 24, 2024
Contract i...
-0 ETH
Confirmed
-0 ETH
Back up your Secret Recovery Phrase to keep your wallet and funds secure.
Back up now
call to Reverser.reverseNumber
call to Reverser.reverseString
Debug