

ASSIGNMENT 1

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1. GO TO THE CHROME AND OPEN REMIX PLATFORM

The screenshot shows the Remix Ethereum IDE web interface open in a Chrome browser. The browser's address bar displays the URL: `remix.ethereum.org/#lang=en&optimize=false&runs=200&evmVersion=null&version=soljson-v0.8.0+commit.c7dfd78e.js`. The interface is dark-themed and includes a sidebar on the left with icons for Home, Search, and other functions. The main content area is divided into several sections:

- REMIX**: The top section with the Remix logo and social media links. Below it, there's a search bar for documentation and a "Files" section with buttons for "New File", "Open File", and "Access File System".
- Learn**: A section with links to "Remix Basics" and "Intro to Solidity".
- Featured**: A section with a "BETA TESTING" announcement and a "Sign up" button.
- Get Started - Project Templates**: A section with four templates: "GNOSIS SAFE MULTISIG", "OXPROJECT ERC20", "OPENZEPPELIN ERC20", and "OPENZEPPELIN ERC721".
- Featured Plugins**: A section with four plugins: "SOLIDITY ANALYZERS", "COOKBOOK", "SOLIDITY", and "SOURCIFY".

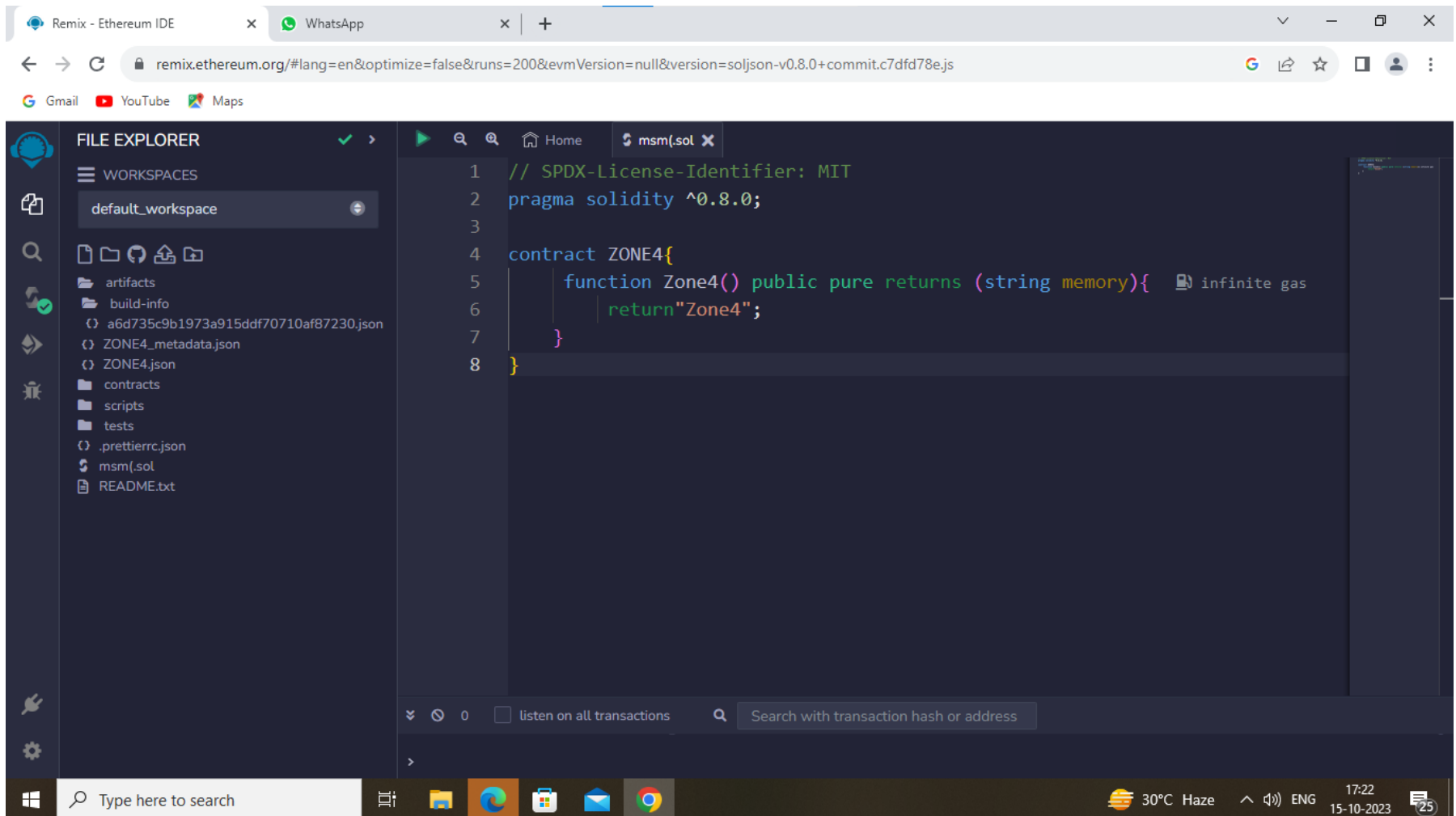
The bottom of the interface features a search bar for transaction hashes or addresses and a status bar at the very bottom showing system information like temperature, time, and date.

2. OPEN THE REMIX PAGE AND CREATE A NEW FILE

The screenshot shows the Remix Ethereum IDE interface in a web browser. The browser's address bar displays the URL: `remix.ethereum.org/#lang=en&optimize=false&runs=200&evmVersion=null&version=soljson-v0.8.0+commit.c7dfd78e.js`. The interface is divided into several sections:

- FILE EXPLORER:** Located on the left, it shows the 'default_workspace' with a file tree containing folders like 'artifacts', 'contracts', 'scripts', and 'tests', and files like 'a6d735c9b1973a915ddf70710af87230.json', 'ZONE4_metadata.json', 'ZONE4.json', '.prettierrc.json', 'msm.sol', and 'README.txt'.
- REMIX Header:** The main header area includes the 'REMIX' logo, social media links, and the tagline 'The Native IDE for Web3 Development.' It also features links to 'Website', 'Documentation', 'Remix Plugin', and 'Remix Desktop', along with a 'Search Documentation' bar.
- Files Section:** Below the header, there are buttons for 'New File' and 'Open File', and an 'Access File System' button. Below these are options to 'Load from' 'GitHub', 'Gist', 'IPFS', or 'HTTPS'.
- Learn Section:** A section titled 'Learn' with a 'Remix Basics' link, described as 'An introduction to Remix's interface and basic operations.'
- Featured Section:** A section titled 'Featured' containing a 'WATCH TO LEARN' video tip from the Remix Team, a 'Get Started - Project Templates' section with options like 'GNOSIS SAFE MULTISIG', 'OXPROJECT ERC20', and 'OPENZEPELIN ERC20', and a 'Featured Plugins' section with 'SOLIDITY ANALYZERS', 'COOKBOOK', and 'SOLIDITY'.
- Bottom Bar:** The bottom of the interface features a search bar with the text 'Search with transaction hash or address', a 'listen on all transactions' checkbox, and a status bar at the very bottom showing system information like '30°C Haze', 'ENG', and the date '15-10-2023'.

3. IN THAT NEWLY CREATED FILE, CREATE A PROGRAM TO RETURN YOUR STRING, "ZONE NAME"



The screenshot displays the Remix Ethereum IDE interface. The top browser window shows the URL `remix.ethereum.org/#lang=en&optimize=false&runs=200&evmVersion=null&version=soljson-v0.8.0+commit.c7dfd78e.js`. The left sidebar contains a 'FILE EXPLORER' with a 'WORKSPACES' section showing 'default_workspace' and a file list including 'artifacts', 'build-info', 'a6d735c9b1973a915ddf70710af87230.json', 'ZONE4_metadata.json', 'ZONE4.json', 'contracts', 'scripts', 'tests', '.prettierrc.json', 'msm(.sol)', and 'README.txt'. The main editor area shows a Solidity program in a file named 'msm.sol'. The code is as follows:

```
1 // SPDX-License-Identifier: MIT
2 pragma solidity ^0.8.0;
3
4 contract ZONE4{
5     function Zone4() public pure returns (string memory){ infinite gas
6         return "Zone4";
7     }
8 }
```

The bottom status bar shows '0' transactions, a search bar with the text 'Search with transaction hash or address', and system information including '30°C Haze', 'ENG', and the date '15-10-2023'.

FILE EXPLORER

WORKSPACES

default_workspace

artifacts

build-info

a6d735c9b1973a915ddf70710af87230.json

ZONE4_metadata.json

ZONE4.json

contracts

scripts

tests

.prettierrc.json

msm(.sol

README.txt

1 // SPDX-License-Identifier: MIT

2 pragma solidity ^0.8.0;

3

4 contract ZONE4{

5 | function Zone4() public pure returns (string memory){ infinite gas

6 | | return"Zone4";

7 | }

8 }

listen on all transactions

Search with transaction hash or address

CALL [call] from: 0x5B38Da6a701c568545dCfcB03FcB875f56beddC4 to: ZONE4.Zone4() data: 0xc9b...e1928

from 0x5B38Da6a701c568545dCfcB03FcB875f56beddC4

to ZONE4.Zone4() 0xd9145CCE520386f254917e481eB44e9943F39138

execution cost 741 gas (Cost only applies when called by a contract)

input 0xc9b...e1928

decoded input {}

decoded output { "0": "string: Zone4"

1000

Type here to search

📁 🌐 📁 📧 🌐

🌤 30°C Haze 📶 🔊 ENG 17:25 15-10-2023 25

4. SAVE THE PROGRAM AND COMPILE IT TO GET THE ABI AND BYTECODE

ABI

```
[
  {
    "inputs": [],
    "name": "Zone4",
    "outputs": [
      {
        "internalType": "string",
        "name": "",
        "type": "string"
      }
    ],
    "stateMutability": "pure",
    "type": "function"
  }
]
```

BYTECODE

608060405234801561001057600080fd5b50610
17c806100206000396000f3fe608060405234801
561001057600080fd5b506004361061002b5760
003560e01c8063c9be192814610030575b60008
0fd5b61003861004e565b604051610045919061
00c4565b60405180910390f35b6060604051806
0400160405280600581526020017f5a6f6e6534
00000000000000000000000000000000000000
000000000000000000000815250905090565b600061
0096826100e6565b6100a081856100f1565b935
06100b0818560208601610102565b6100b9816

5. FINALLY DEPLOY IT TO DISPLAY THE OUTPUT

The screenshot displays the Remix Ethereum IDE interface. The top bar shows the browser address: `remix.ethereum.org/#lang=en&optimize=false&runs=200&evmVersion=null&version=soljson-v0.8.0+commit.c7dfd78e.js`. The left sidebar contains the FILE EXPLORER with a tree view of the workspace, including folders like `artifacts`, `build-info`, `contracts`, and `scripts`, as well as files like `ZONE4_metadata.json`, `ZONE4.json`, `msm.sol`, and `README.txt`.

The main editor displays the Solidity code for `msm.sol`:

```
1 // SPDX-License-Identifier: MIT
2 pragma solidity ^0.8.0;
3
4 contract ZONE4{
5     function Zone4() public pure returns (string memory){ infinite gas
6         return "Zone4";
7     }
8 }
```

Below the code editor, the DEBUG console shows the execution details of a `CALL` transaction:

- CALL** [call] from: `0x5B38Da6a701c568545dCfcB03FcB875f56beddC4` to: `ZONE4.Zone4()` data: `0xc9b...e1928`
- from**: `0x5B38Da6a701c568545dCfcB03FcB875f56beddC4`
- to**: `ZONE4.Zone4() 0xd9145CCE52D386F254917e481e844e9943F39138`
- execution cost**: 741 gas (Cost only applies when called by a contract)
- input**: `0xc9b...e1928`
- decoded input**: `{}`
- decoded output**: `{ "0": "string: Zone4" }`

The bottom status bar shows the system clock at 17:29 on 15-10-2023, along with other icons like Live, ENG, and a notification icon.

0 ☐ listen on all transactions

Search with transaction hash or address

CALL [call] from: 0x5B38Da6a701c568545dCfcB03FcB875f56beddC4 to: ZONE4.Zone4() data: 0xc9b...e1928

from 0x5B38Da6a701c568545dCfcB03FcB875f56beddC4

to ZONE4.Zone4() 0xd9145CCE52D386f254917e481e844e9943F39138

execution cost 741 gas (Cost only applies when called by a contract)

input 0xc9b...e1928

decoded input {}

decoded output {
 "0": "string: Zone4"
}

1000 1000 1000

>