

ASSIGNMENT 1

NAME	<i>A.Lavanya</i>
ZONE	4
COLLEGE	GKM COLLEGE OF ENGINEERING AND TECHNOLOGY

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 navigation icons for Home, Files, Learn, and a search bar. The main content area is divided into several sections:

- REMIX**: The Native IDE for Web3 Development. Includes links for Website, Documentation, Remix Plugin, and Remix Desktop. A search bar for documentation is also present.
- Files**: Buttons for New File, Open File, and Access File System. Below these are buttons for Load from: GitHub, Gist, IPFS, and HTTPS.
- Learn**: A section with a "Remix Basics" card (An introduction to Remix's interface and basic operations. Get Started) and an "Intro to Solidity" card.
- Featured**: A section with a "BETA TESTING" announcement (Our community supports us. Help us beta test releases now and get a handle on new features! Sign up) and a "Get Started - Project Templates" section.
- Featured Plugins**: A section with four plugin cards: GNOSIS SAFE MULTISIG (Create Multi-Signature wallets using this template.), OXPROJECT ERC20 (Create an ERC20 token by importing OxProject contract.), OPENZEPELIN ERC20 (Create an ERC20 token by importing OpenZeppelin library.), and OPENZEPELIN ERC721 (Create an NFT token by importing OpenZeppelin).

The bottom of the interface features a status bar with a search bar (Search with transaction hash or address), a "listen on all transactions" checkbox, and a system tray showing the time (17:20) and date (15-10-2023).

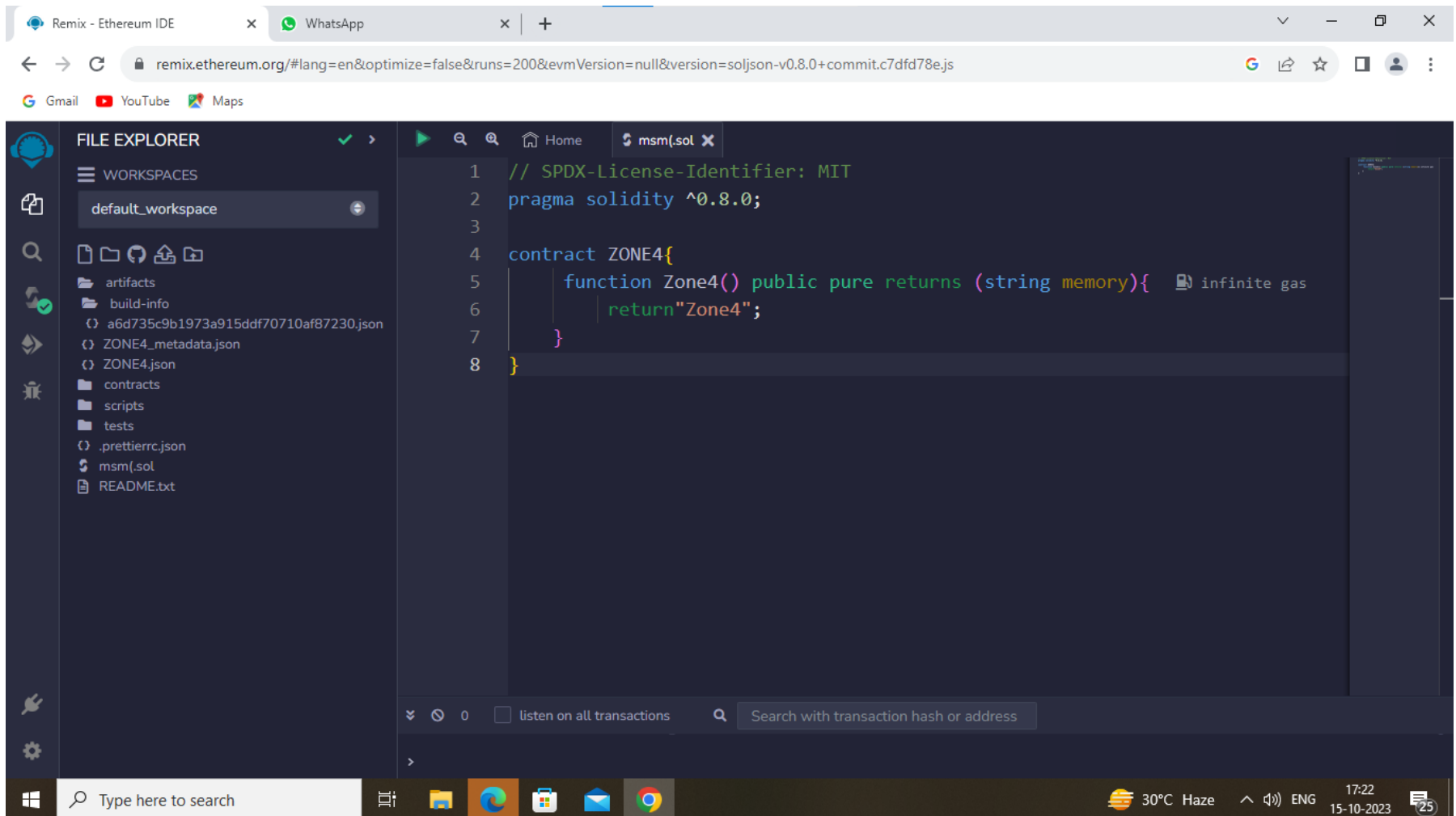
2. OPEN THE REMIX PAGE AND CREATE A NEW FILE

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

- FILE EXPLORER (Left Panel):** Shows the workspace structure. Under "WORKSPACES", "default_workspace" is selected. The file list includes:
 - artifacts
 - build-info
 - a6d735c9b1973a915ddf70710af87230.json
 - ZONE4_metadata.json
 - ZONE4.json
 - contracts
 - scripts
 - tests
 - .prettierrc.json
 - msm.sol (selected)
 - README.txt
- Main Editor (Center):** Displays the "REMIX" logo and the text "The Native IDE for Web3 Development." Below this are links for "Website", "Documentation", "Remix Plugin", and "Remix Desktop". A search bar for "Search Documentation" is present. The "Files" section offers "New File" and "Open File" buttons, along with an "Access File System" button. Under "Load from", there are buttons for "GitHub", "Gist", "IPFS", and "HTTPS". The "Learn" section features a "Remix Basics" link with the description "An introduction to Remix's interface and basic operations."
- Right Panel:**
 - Featured:** Includes a "WATCH TO LEARN" section with a video titled "Video Tips from the Remix Team" and a "Watch" button. Below it is a "Get Started - Project Templates" section with three options: "GNOSIS SAFE MULTISIG" (Create Multi-Signature wallets), "OXPROJECT ERC20" (Create an ERC20 token by importing OxProject contract), and "OPENZEPELIN ERC20" (Create an ERC20 token by importing OpenZeppelin lib).
 - Featured Plugins:** Includes three plugin cards: "SOLIDITY ANALYZERS" (Analyze your code using Remix, Solhint and Slither), "COOKBOOK" (Find smart contracts, solidity libraries, and discover), and "SOLIDITY" (Compile, test, and analyze smart contracts).
- Bottom Panel:** Contains a search bar with the placeholder "Search with transaction hash or address" and a checkbox for "listen on all transactions".

The Windows taskbar at the bottom shows the search bar, task view, and several open applications including File Explorer, Edge, and Chrome. The system tray on the right indicates a temperature of 30°C, haze, and the time 17:20 on 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" }

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

608060405234801561001057600080fd5b5061017c806100206000396
000f3fe608060405234801561001057600080fd5b506004361061002b5
760003560e01c8063c9be192814610030575b600080fd5b6100386100
4e565b60405161004591906100c4565b60405180910390f35b6060604
0518060400160405280600581526020017f5a6f6e6534000000000000
00081525090509056
5b6000610096826100e6565b6100a081856100f1565b93506100b0818
560208601610102565b6100b981610135565b8401915050929150505
65b600060208201905081810360008301526100de818461008b565b9
05092915050565b600081519050919050565b6000828252602082019
05092915050565b60005b83811015610120578082015181840152602
081019050610105565b8381111561012f576000848401525b50505050
565b6000601f19601f830116905091905056fea2646970667358221220
9f1f861fcf66d913a9cdbb6ea4738784cf8723ef59258eb10998f376ae76
458d64736f6c63430008000033

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:

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

The debug output shows the following details:

- 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 as 17:29 on 15-10-2023, along with other icons for Live, ENG, and a notification icon.

Search with transaction hash or address

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