Homework 8

See the repo for the code

Using your choice of hardhat, foundry or truffle

1. Create a project for your Volcano coin
2. Write unit tests for your Volcano coin contract
   The tests should show that
   1. The total supply is initially 10000
   2. That the total supply can be increased in 1000 token steps
   3. Only the owner of the contract can increase the supply.

Example Using Foundry (see test folder for more tests)

```
// SPDX-License-Identifier: UNLICENSED
pragma solidity 0.8.17;

import "forge-std/Test.sol";
import "../src/VolcanoCoin.sol";

contract VolcanoCoinTest is Test {
    VolcanoCoin public vc;
    address deployer = address(0);
    address alice = address(1);
    uint256 totalSupply = 1000;

    //deploy contract
    function setUp() public {
        vm.prank(deployer);
        vc = new VolcanoCoin();
    }

    // init totalySupply == 1000
    function testInitTotalSupply() public {
        assertEq(vc.totalSupply(), totalSupply);
    }

    // Owner can increase totalySuppply
    function testIncreaseSupply() public {
        vm.prank(deployer);
```

```
        vc.increaseSupply();
        assertEq(vc.totalSupply(), 2000);
    }

    // Must be owner to inrease supply
    function testOnlyOwner() public {
        vm.prank(alice);
        vm.expectRevert(bytes("Must be owner"));
        vc.increaseSupply();
        assertEq(vc.totalSupply(), 1000);
    }
```

For help with the syntax for unit tests see

Hardhat : https://hardhat.org/guides/waffle-testing.html
Foundry : https://book.getfoundry.sh/forge/tests
Truffle : https://trufflesuite.com/docs/truffle/testing/writing-tests-in-javascript.html

You can use the gitpod workspace :
gitpod.io/#https://github.com/ExtropyIO/SolidityBootcamp