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// SPDX-License-Identifier: MIT

pragma solidity ^0.8.0;

import "erc20.sol";

contract DEX {

ERC20 public token;

event Bought(uint256 amount);

event Sold(uint256 amount);

address erc20add = 0x9a2E12340354d2532b4247da3704D2A5d73Bd189;

constructor() {

token = ERC20(erc20add);

}

function buy() payable public {

uint256 amountTobuy = msg.value;

uint256 dexBalance = token.balanceOf(address(this));

require(amountTobuy > 0, "You need to send some ether");

require(amountTobuy <= dexBalance, "Not enough tokens in the reserve");

token.transfer(msg.sender, amountTobuy);

emit Bought(amountTobuy);

}

function sell(uint256 amount) public {

require(amount > 0, "You need to sell at least some tokens");

uint256 allowance = token.allowance(msg.sender, address(this));

require(allowance >= amount, "Check the token allowance");

token.transferFrom(msg.sender, address(this), amount);

payable(msg.sender).transfer(amount);

emit Sold(amount);

}

}