Homework 3 Answers

Answers

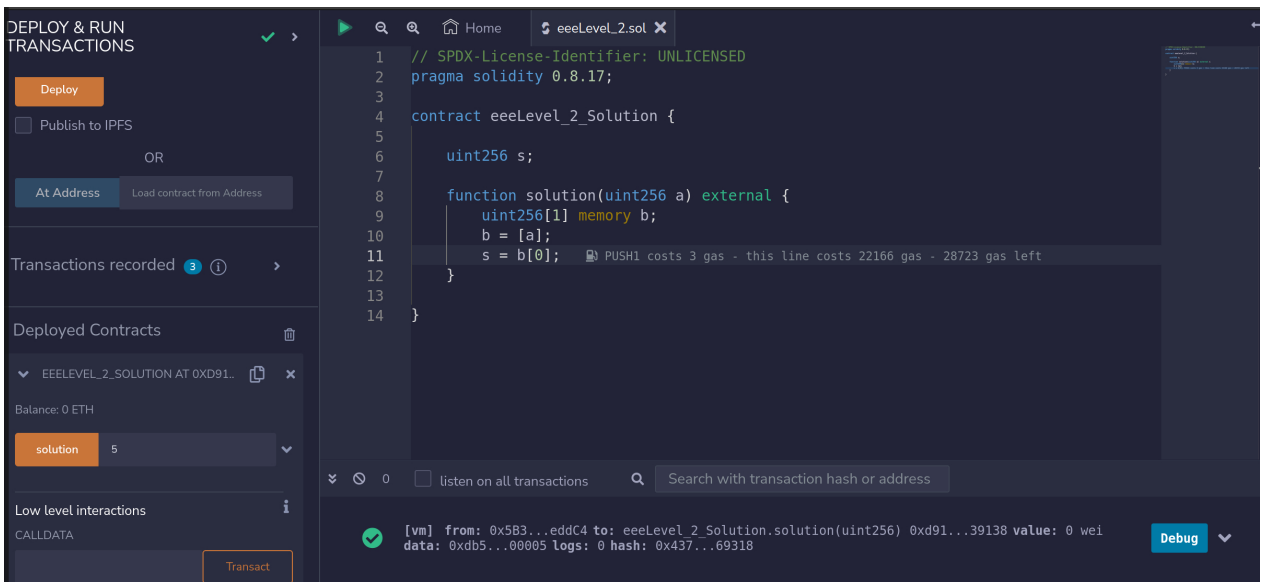
1. What are the advantages and disadvantages of the 256 bit word length in the EVM?

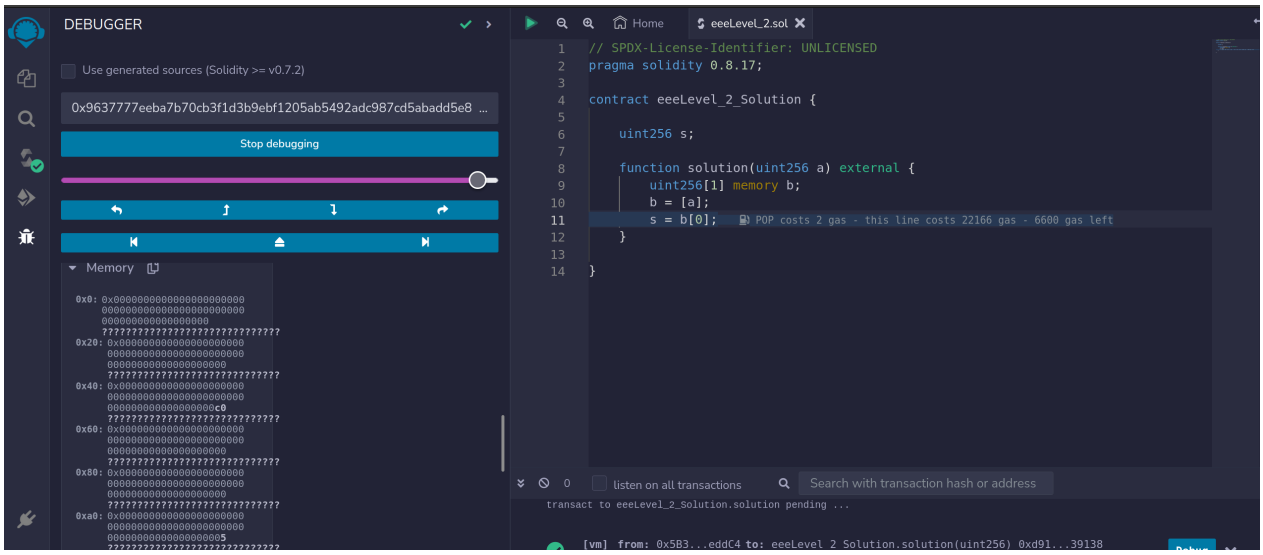
The 256 bit word length allows Keccak-256 hashing algorithm to run efficiently.

2. What would happen if the implementation of a precompiled contract varied between
   Ethereum clients?

The different clients would not come to consensus and you get end up with forks of the network.

3. Using Remix write a simple contract that uses a memory variable, then using the debugger step through the function and inspect the memory.




DEBUGGER
Use generated sources (Solidity >= v0.7.2)
0x9637777eeba7b70cb3f1d3b9ebf1205ab5492adc987cd5abadd5e8 ...
Stop debugging
Memory
Home
eeeLevel_2.sol
// SPDX-License-Identifier: UNLICENSED
pragma solidity 0.8.17;
contract eeeLevel_2_Solution {
uint256 s;
function solution(uint256 a) external {
uint256[1] memory b;
b = [a];
s = b[0];
POP costs 2 gas - this line costs 22166 gas - 6600 gas left
}
}
listen on all transactions
Search with transaction hash or address
transact to eeeLevel_2_Solution.solution pending ...
[vm] from: 0x5B3...eddC4 to: eeeLevel_2_Solution.solution(uint256) 0xd91...39138