TASK 1 Document

1. **Introduction**

The StBlsToken and BlsToken contracts are Ethereum smart contracts written in Solidity. These contracts are designed to facilitate staking and unstaking of tokens, allowing users to earn rewards in the form of stBLS tokens by staking BLS tokens.

2. **StBlsToken Contract**

2.1. **Overview**

The StBlsToken contract is an ERC20 token contract that represents staked BLS tokens. Users can stake BLS tokens to receive stBLS tokens in return. The contract ensures that staking and unstaking operations are executed securely and efficiently.

2.2. **Functionality**

Constructor: Initializes the contract with a reference to the BlsToken contract.

Stake: Allows users to stake a specified amount of BLS tokens to receive stBLS tokens in return.

Unstake: Allows users to unstake a specified amount of stBLS tokens to receive an equivalent amount of BLS tokens.

2.3. **Events**

Staked: Fired when a user stakes BLS tokens to receive stBLS tokens.

Unstaked: Fired when a user unstakes stBLS tokens to receive BLS tokens.

3. **BlsToken Contract**

3.1. **Overview**

The BlsToken contract is an ERC20 token contract that represents BLS tokens. It is the underlying token that users can stake to earn stBLS tokens.

3.2. **Functionality**

Constructor: Initializes the contract with an initial total supply of BLS tokens.

Mint: Mints new BLS tokens and assigns them to the specified account.

Transfer: Allows the transfer of BLS tokens between accounts.

4. **Technical Development**

4.1. **Solidity Version**

Both contracts are written in Solidity version 0.8.0.

4.2. **Dependencies**

OpenZeppelin Contracts: The contracts utilize OpenZeppelin ERC20 and Ownable contracts for standard token functionality and access control.

4.3. **Deployment**

Both contracts need to be deployed to the Ethereum blockchain. The BlsToken contract should be deployed first, and its address should be provided as a parameter when deploying the StBlsToken contract.

4.4. **Testing**

Comprehensive testing should be conducted to ensure the correctness and security of both contracts. This includes unit tests for individual functions as well as integration tests for the entire system.

5. **Conclusion**

The StBlsToken and BlsToken contracts provide a mechanism for users to stake BLS tokens and earn stBLS tokens as rewards. These contracts can be deployed on the Ethereum blockchain and integrated into decentralized applications (dApps) that require staking functionality.

ETHERSCAN VERIFY LINKS:
BLS Token:

https://sepolia.etherscan.io/address/0x10faab02c3b7cffde5295cd5634383643b4b83ee

STBLS Token:
https://sepolia.etherscan.io/address/0x5bd6a384971be4569948ed523fef6e145dd46dae