Assignment 7 - Proxy Contact / Vyper Contract

400pts
Due May 2 - 2 Parts - Last homework

Build a pair of contracts, a Proxy contract that allows the upgrade of an implementation contract and a more general voting contract.

The test code for the contracts should call the proxy and check that it voting works through the proxy.

Part 1 - 200pts

Part 1: Use the Proxy contract from the class lecture, 29. `.../S22-4010/class/lect/29/eth/contracts` DaoVoterContract.sol and DaoVoterContractUpgradableV1.sol

Modify DaoVoterContract.sol to work with a version 1 vote contract in Vyper. Name changes, change file name etc.

Load and test the pair of contracts using a modified `.../S22-4010/class/lect/29/eth/migrations/2_*.js` ../../class/lect/29/eth/migrations/3_dao_voter.js

```
// SPDX-License-Identifier: MIT

const DaoVoterContract = artifacts.require("DaoVoterContract");
const DaoVoterContractUpgradableV1 = artifacts.require("DaoVoterContractUpgradableV1");

module.exports = (deployer) => {
        deployer.then(async () => {

                // Load Contract
                await deployer.deploy(DaoVoterContractUpgradableV1);

                // Create proxy
                await deployer.deploy(DaoVoterContract, DaoVoterContractUpgradableV1.address, 10000);
        });
};
```

Note that this migration deploys the proxy contract, then uses the address of the deployed contract and passes that to the proxy contract.

Part 2 - 200pts

Part 2: Implement and test the voting contract.

Take the example voting contract in Vyper and modify it to allow for multiple things to be voted on.

```
@external
def createProposal(_proposalNames: bytes32[10], _nProposedItems: int128):
```

1. Check that a vote is not currently in progress. If so then error.
2. Check that the person creating the proposal is the owner/self.chairpeson for the contract.
3. Check that the number of items that is being voted on is 10 or less. There must be at least 1 item to vote on.
4. Create the item – for all the unused slots in the 10 items set the name of the item to ""

Modify the constructor to not create a proposal.

Create a test that creates a proposal and then votes on it.

Create a pair of functions/methods that start the voting window and ends the voting window.

```
@external
def startVote():
```

and

```
@external
def endVote():
```