# Homework 4

## Optimising Storage

Take [this contract](#)

Use the [sol2uml tool](#) to find out how many storage slots it is using.

By re ordering the variables, can you reduce the number of storage slots needed ?

# Foundry Introduction

1. Install Foundry

   See [Instructions](#)

   First run the command below to get `foundryup`, the Foundry toolchain installer:

   curl -L [https://foundry.paradigm.xyz](https://foundry.paradigm.xyz) | bash

   If you do not want to use the redirect, feel free to manually download the foundryup installation script from [here](#).

   Then, run `foundryup` in a new terminal session or after reloading your `PATH`.

Other ways to use `foundryup`, and other documentation, can be found [here](here).

2. Create a project
   1. Use `forge init <project_name>` for the default template or
   2. Use this [template](template)
3. Run the tests supplied to familiarise yourself with Foundry

# Try out the Solidity Template or the Foundry Template

1. Start a new project using the [Solidity Template](Solidity Template)
2. Make a fork of mainnet from the command line (you may need to setup an Infura or Alchemy account)
3. Query the mainnet using the command line to retrieve a property such as latest block number.

Is this valid solidity ?

```
contract MyCon {
    function a(
        function(
            function(
                function(
                    function(
                        function(
                            function(
                                function(
                                    function() external pure
                                ) external pure
                            ) external pure
                        ) external pure
                    ) external pure
                ) external pure
            ) external pure
        ) external pure
    ) external pure {}
}
```