Solidity Illustrated

Intro & State Variables

A video discussing all of this material is available here: https://youtu.be/4XQsHBJScEk

variables declared outside a function are state variables, they are stored on the blockchain when they are `public`

variables declared inside a function are only available during a call of that function, and such variables are not stored on the blockchain

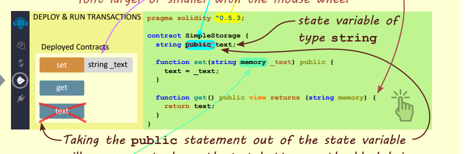
Smart contracts can be written and deployed to a test environment here:
https://remix.ethereum.org The site cookies save your work

STEP 1: Write a smart contract in this file explorer

STEP 2: Compile the smart contract with compiler version compatable with this

STEP 3: Deploy the smart contract here ... to see how it can be accessed on the blockchain with these options here

NOTE: If you hold down both Left-Alt and left-Shift at the same time, you can make the terminal font larger or smaller with the mouse wheel



DEPLOY & RUN TRANSACTIONS

Deployed Contracts

```
pragma solidity ^0.5.3;

contract SimpleStorage {
  string public text;

  function set(string memory _text) public {
    text = _text;
  }

  function get() public view returns (string memory) {
    return text;
  }
}
```

Taking the **public** statement out of the state variable will cause you to loose the **text** button on the blockchain

Variables in Solidity are stored in one of these three locations
https://docs.soliditylang.org/en/v0.5.3/types.html

`storage`	this is where data can be permanently stored; these are state variables
`memory`	variables in memory are only available when the function is executing
`calldata`	special data location that contains the function arguments, only available for external function call parameters

Types of Functions in Solidity

- ones that create transactions
- ones that do not create transactions

Ether and Wei

Gas and Gas Price

Invalid Functions

View and Pure Functions

Function Modifiers

Inheritance (Constructor-1)

Inheritance (Constructor-2)

Inheritance (Super)

Constructor

Inheritance (Override-1)

Inheritance (Order)

Inheritance (Events)

Inheritance (Override-2)

Visibility

Events

Error

Looping

Arrays

Mapping

Enums

Structs

Payable

Sending Ether

Fallback Function

here, then hit the set button. After that, hit the get button and you will see this uint value here, but if you copy the address and paste it here, then hit the remove button after that, when you hit the get button the value will be 0 instead of 123

YouTube Tutorial References:

Learn Solidity (0.5) by Examples
Smart Contract Programmer

github.com/Richard-Burd/solidity-sandbox
last updated @12:58am on 12/August/2021 by Richard Burd   rick.a.burd@gmail.com

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