

Intro to Solidity & Tools

READING TASK | 6

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Solidity Data Types

* + Solidity Contract Layout
  + <https://docs.soliditylang.org/en/v0.8.11/layout-of-source-files.html>
    - SPDX License Identifier
    - Pragmas/ABI encoder Pragmas
    - Importing Other source files
  + Structure of a Contract
    - Contracts in Solidity are similar to classes in object-oriented languages. Each contract can contain declarations of State Variables, Functions, Function Modifiers, Events, Errors, Struct Types, and Enum Types. Furthermore, contracts can inherit from other contracts.
    - <https://docs.soliditylang.org/en/v0.8.11/structure-of-a-contract.html>
  + Basic data type and conversions
    - <https://docs.soliditylang.org/en/v0.8.11/types.html>
      * Value types in Solidity: Value types include boolean, strings/bytes, integers, address, and fixed-point numbers.
      * <https://cryptomarketpool.com/data-types-in-solidity-smart-contracts/>
      * Variable initialization (checking for nulls)
      * How conversion is handled between different data types
      * <https://learning-dcs-bbn.netlify.app/part%2005-module%2001-lesson%2002_new%20introduction%20to%20solidity%20and%20creating%20a%20token/06.%20type%20conversion%20in%20solidity>
  + Data location (Keywords: memory, storage)
    - Storage vs Memory: Storage changes the state variables directly while memory creates a new memory pointer and makes changes in that instance. For more details please read the link provided below. <https://medium.com/coinmonks/solidity-bits-storage-vs-memory-a54a650ea4ff>
* Arrays
  + Static versus Dynamic arrays
  + Arrays can be categorized into three types according to their sizes.
    - Fixed
    - Dynamic
    - Fixed+dynamic
    - <https://jeancvllr.medium.com/solidity-tutorial-all-about-array-efdff4613694>
  + Storage versus Memory arrays
    - <https://docs.soliditylang.org/en/v0.8.10/internals/layout_in_storage.html>
    - <https://medium.com/coinmonks/ethereum-solidity-memory-vs-storage-which-to-use-in-local-functions-72b593c3703a>
* Special Arrays
  + byte
  + bytes & string referred to as special arrays
    - <https://gyanlakshmi.medium.com/learning-solidity-strings-and-bytes-explained-bd67c28026ef>
    - <https://learning-dcs-bbn.netlify.app/part%2005-module%2001-lesson%2002_new%20introduction%20to%20solidity%20and%20creating%20a%20token/09.%20string%20and%20bytes%20types>
* Tool
* Remix
  + Display of how to deploy
  + <https://remix-ide.readthedocs.io/en/latest/create_deploy.html>
* Truffle (Intro Only)
  + <https://trufflesuite.com/docs/truffle/quickstart.html#truffle-quickstart>