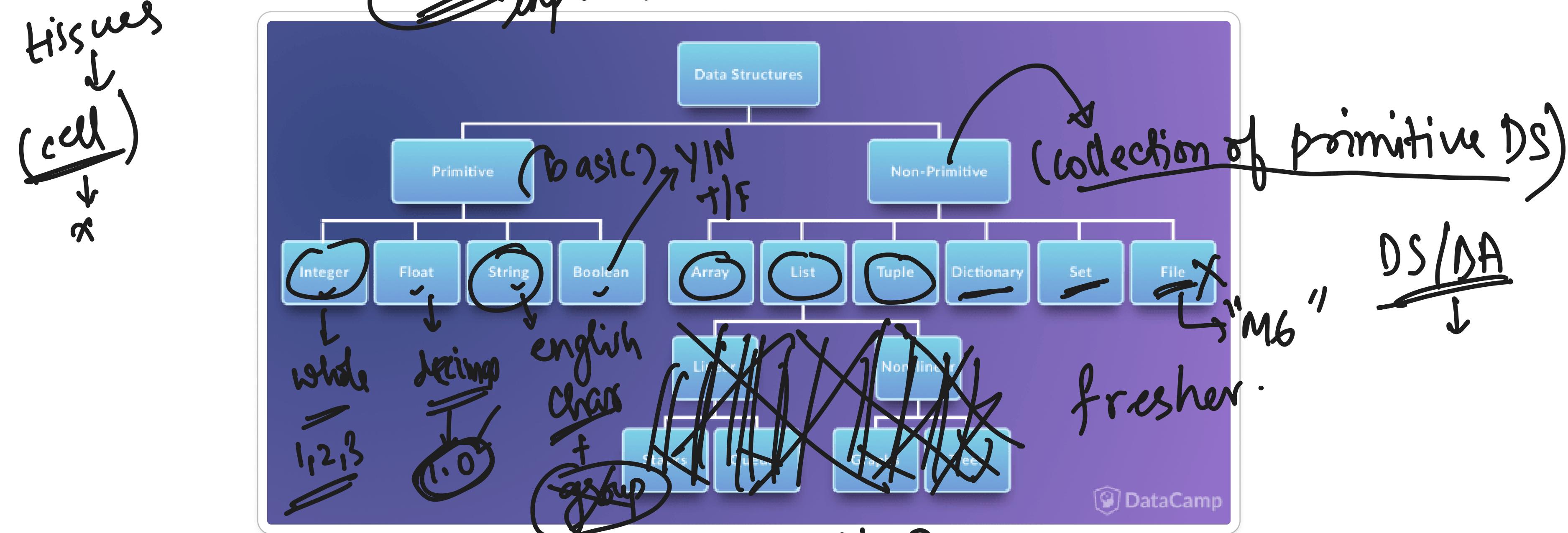


MI → analogous → similar real life  
 Syntax → grammar  
 I am logic?  
 I is  
 6 yrs  
 20-20

Data Structure Funda → logic  
 definition about data  
 variable (stores data)  
 name = 'sanchit'  
 (word),  
 values  
 a = 1 (no.)  
 values  
 excel  
 phone  
 restrict input

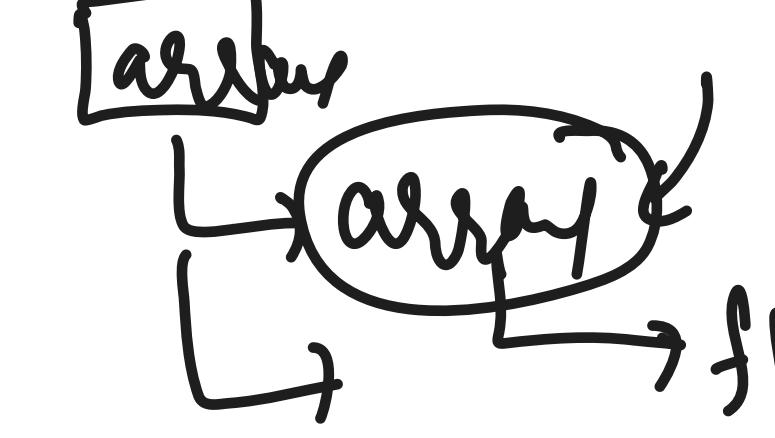


Real life → goa → expenses → notepad 1, notepad 2, notepad 3  
 clumsy → notepad?  
 (excel) → sum avg

(array) var = [ 'a', 'w', 'd', 'e', 's' ] 'char'  
 RUKO ZARA, SABAR KARO

(list) var = [ 'Dharma', 24, 9876543210, 540.2 ] → diff/mixed

list → type (var) → list → (array) → np



array → homogeneous list

array, array

array.array.f1

2+3+5  
 5+5  
 OR  
 2+8

#### Introduction to Arrays

- What's an Array?
  - Arrays are fundamental data structures widely used in programming.
  - They are essentially list-like objects containing multiple values.
  - Many other data structures are derived from arrays.
- Why Use Arrays?
  - Simplifies storing and manipulating data efficiently.
  - Allows storing multiple values of the same data type in a single variable.
  - Provides easy access to data elements via index.
  - Efficient memory management and optimization.
  - Facilitates sorting and searching operations.
- Declaring Arrays in Python
  - Empty array creation: my\_array = []
  - Initializing with values: my\_array = [1, 2, 3, 4, 5]
  - Using the array module for specific data types: array.array('i', [1, 2, 3, 4, 5])
  - Utilizing numpy for multidimensional arrays: np.array([[1, 2, 3], [4, 5, 6]])
- Note: In Python, arrays are commonly referred to as lists.

types

1-D list/array  
 multi

person1 = [ 'Prashant', 28, 98755, 'xyz@gmail.com' ],  
 person2 = [ 'Vishesh', 24, 9761, 'abc@gmail.com' ]

list  
 group  
 variable  
 (Store) help  
 arr = [ 1, 2, 3, 4 ]

L L  
 access (element)  
 iteration → for loop  
 for ele in arr