Goals : Oct 12, 2021

Data Structures and Algorithms
Session ONE

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- Introductions
  - Why are you here ?
  - What language you are planning to use ?
  - How much do you (already) know ?
  - What are you here for ?
- Resources
  - Text Books
  - Internet
  - Others

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- Tools
  - IDE ?
  - CLI ?
  - Development Environment - Windows ? Linux ? Mac ?

- Instructor (ie I) prefer(s) to use
  - Java language
  - C language if needed.
  - IntelliJ for Java, C++ if needed
  - CLI if needed.
  - Mac or Linux

Goals of Course

- Switch to Goals.pdf

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- Discuss Programming Language Models
  - Java, C++, C, others
- Discuss General Data Types
  - Primitive
  - Aggregate / Composite
- Introduce Specific Data types and their problems
  - Array
  - String
  - Come up with problems for Array, String (using Java, C or C++)

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- Array Problems (char, int)
  - Define array
  - Print all array elements
  - Print all array elements in reverse
  - Shift elements of array one position to right
  - Shift elements of array one position to left

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- Array Problems..
  - Remove elements from array
  - Jumble elements in the array.. ie shuffle them
  - Duplicate an array.
  - Make two references to the same array
  - Find largest element in array
  - Find smallest element in array
  - Reverse elements in array – inefficiently
  - Reverse elements in array – efficiently

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- Array Problems (advanced)..
  - Merge two sorted arrays
  - Find the first so many largest elements in unordered array
  - Find the first so many smallest elements in a unordered array

Conclusion Oct 12

- Introductions
- Introduce Languages
- Introduce Array problems