What is Data Structures ? A data stewcture in a way a organising data and storing data oned storing data so short with com be accurred and modificely efficiently worked in adminion why do us need Data Structure? (Dipros) - Origanise data efficiently april prisont -> Perform operations life search, winnert, delete quickly. o Integer - Optimize memory durage will · Heat Store anglish words. bridg . Types of Date Sprieture. · chosaster > Store True or false o Boolsom Painitive Non Primitive. opinis now Pourties Dates Structury to Integer is user frientitue Oaka Structure Werined books of - from the date type made by steer the solution or due madros of In April John conflow Topont State Dynamic - phisippe fritabilistical simo po o 3 Allew op suttendant But In alion, deletion; bourared peopleting.

1) Primitive. Data spriture? This are most basic types of data has a consultanguage there are directly duppertal by why do no oud Octo Shurting ? relignos is detering fingle phalmers while simperior add the fast to use whole rumber white -> Stor weat number (decimal) · Integer · Stoat -> Store anglish words. · String -> Stone an Lingle character 14/161 · character -> Store fru or false · Booleom · Pointer (clus) > Stores memory adelices winter Di Non- Pourritive Dates Structione to Tudge s von formitie Data structure and derined interest of from primitive dates type made by interest of frogrammers, which stores mentiple values. retioned of and perform complen operations. Shall 4 organise large data spicionty. Diman -> Allew oporations clike insertion, deletion, traversal scarebing

-> Non Poimitive Data Smetures are divided into
Non Pointine Data Smutures are divided into two different types: without stall nearly moin (3)
(i) -> Rinear Data Smiture
or with conferment or the continue
(1) -> Rinear Data Structure we show to
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- when which
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contigious memory.
11. Leal list > Dynamic inocles where each such
paints to the next.
De Non Lineary Date Structure  Date Structure  Hineary Date Structure  Hereary Date agreement sequential (on after another)  Array > Fixed Spenisone type clement in contigious momony.  Linked list   > Dynamic modes whire each modes  Paint to the nent:  Stack   > LIFO (Last m, First Out)
(State)
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B. Non-Linear Data Structure (4)(4) towoffile out Flements over overenged hierarchial or with complen relationships.

(Not - one - after - mother) · Touer - Microrechial Structure with powent-· TBinary True Han Two children por node with (1) · Binary Search True -> Stored binary Treetward o Heep > Complete binary loce.

The Jor Storing String with

Prefin Sharing morn ( Moray > firted list [Graph ]: Nocles connected with edger. Non hinear Ds operation == guesse Magracialeles many Deque o Search a shortest pulled 20 renar · Top degical Lotting Com 1 Love (-Amber Stage With Stage

Primitive Data Structura are divided into

-> Non

(C) Mash Based. Data Structure. Us Mark Tuble / Hack May > 15 toses) Key- value, puir The receiver met used anique ideta elements What is on Algorithm ? -> An Algorishm us a step by step well defined presedure to solve a specific problem in a sonite number of Steps. (1 per 10 deaned priorie) why Are Algorithm Important? -> Efficients ucessof of me and memory. wince of @ -> Melps dolue real-world presterns. Some Algorithm Names: mortaliquest +is is 1) Breite Jose Algorishm. 5 Try all possible Combinations blindly untill the coincectoronest in founding short a considerable complete. There are all well with the soul of the considerable of the constant of the constant one. > Pairword Gracking. minimaply placery They are wrelly way blowy phings often splend or o (1") time complenity of the call the call the call to a global aptinum of their chairs it leads to a global aptinum.

(c) Mark Bused. Date Structure. De Divide and Conquer of her har further further into another question dus problems, Solve them recurrinly, and wombine verselt. What is an Algerithm? - elymon? of Myselman is a (replant) of the Builte right of topin) faurage who to the substitute of the standard of the substitute of >> Birary dearth o(logn) . will 3) Rewrision. Stronger with solver such problems (
> A Junction well it self "to solver such problems (
> mother to be solver such problems (
> mother to be solver such problems ( (a) Bit Hamipulation.

(b) use bihuise operator Honsolne

problem efficiently.

militagh and should (1) B Agramic Programming (OP) adimed has not a something overlapping all shorts into overlapping all shorts show the overlapping one, Store the oresult. ( 3 Greedy Algorithm ( walnow brown ) Divide Me hepoblesh uto Estables du Localles optimes.

At Each Step, choose the localles optimes.

Choice Croping it leads to a global optimum.