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Subject code - CSI-217 (Data structure)

Answer to the Question - 1 (a)

(a) Ans: A Data structure is a specialized for arranging, organizing - processing Retrieving and storing data. There are several basic and Advanced types of Data structures, all designed to arrange data to suit a specific purpose.

(b) Array Operators: Array operators means the platform which enables as to define array attributes - blob attributes that represent numeric arrays of 64 bit integer or Double values. The + operator return the right-hand Array appended to the left-hand ary; for keys that exist in both arrays the Elements form the left-hand array will be Array.

1.

(b) Answer : Operation of Data Structure:

Data Structure is the way of storing data in computers Memory so that it can be used easily and efficiently There are different data structure used for the storage of Data.

Advantages:

(1) The structure is a good solution for storing data on framework.

(2) Data structure make it easier for as to handle data.

(3) Data Structure also aid as in efficiently. Storing data or circles so that we can recover the Data.

(4) Data structure are critical for planning. Computations.

(5) As we have seen data structure are a mechanism for arranging data in to a specified structure.

(c) Answer:

## Array types:

An computer science, array is a data type that represents a collection of elements, each selected by one or more indices that can be computed at run time during program execution. Such, a collection is usally called an array variable or array value.

There are mayorly three types of Array:

1. one - dimensional array (1-D Arrays).
2. two - dimensional (2D) Array.
3. Theree - dimensional array.

Array operator: The + operator returns the right-hand array appended to the left-hand array; for keys that exist in both arrays, the elements from the left-hand array ~~will~~. Array operation ([]) you can used one of the following sytax variations of the array operators ([]) to referenee specific all variations, an element index number can also be provided as an expression that evaluates to an integer.

12/17/2023 23:37

## Answere to the Question - No - 2

2.

(a) Ans: Basic operations on stack: There are Basically three operations that can be performed on stacks. They are:

(1) Inserting an item in to a stack (push).

(2) Deleting an item from the stack (pop)

(3) Displaying the contents of the staack (peek or top)

(b) stacks's Application. A stack can be used for evaluating expressions cosisting of operands and operator.

(a) Evaluation of Arothmetic Expressiins.

(b) Backtracking.

(c) Delimiter checking.

(d) Reverse a data.

(e) processing function calls.

2

(b) Ans: A graph can be represented using 3 data ~~stru~~ structures - Adjacency matrix, Adjacency matrix can be thought of as a table and column labels represent the Nodes of a graph. A graph ~~as~~ is a non-linear data structure consisting of vertices and edges. The vertices are sometime also referred to as nodes and the edges.

(c) Ans: ⇒ The formula for Calculating Arithmetic mean is (sum of all observations) / (Number of observations)

for example the Arithmatic mean of a set of Numbers {10, 20, 30, 40} can be found out,

Arithmatics mean = $\frac{(10+20+30+40)}{4}$

$= \frac{100}{4} = 25$

$= 25$ Ans

(Ans)