Data structure-4

SL NO	QUESTIONS
1	What is the purpose of an abstract data type?
	The purpose of an abstract data type is to specify the amount of memory needed to store data and the kind of data that will be stored in that memory location.
2	What is the relationship between a stack and an array?
	A stack and an array are two different things. An array stores values in memory. A stack tracks how the elements are organize in the array.
3	What is the action called to place data on a stack?
	Push
4	What is the action called to remove data from a stack?
	Pop
5	What is the data structures used to perform recursion?
	Stack. Because of its LIFO (Last In First Out) property it remembers its 'caller' so knows whom to return when the function has to return. Recursion makes use of system stack for storing the return addresses of the function calls.
6	What are the application of stack data structures?
	DFS traversal of Tree DFS traversal of Graph Conversion of arithmetic expression Evaluation of arithmetic expression Execution sequence of function and function recursion
7	What are the notations used in Evaluation of Arithmetic Expressions using prefix and postfix forms?
	Polish and Reverse Polish notations.
8	Convert the expression ((A + B) * C - (D - E) ^ (F + G)) to equivalent Prefix and Postfix notations.
	Prefix Notation: - * +ABC ^ - DE + FG Postfix Notation: AB + C * DE - FG + ^ -
9	Tower of Hanoi problem is solved using which data structure?
	Stack data structure
10	What does the term "circular queue" mean?
	A circular queue is a queue implemented using an array or linked list. When the elements at the end of list are used up, you start over at the beginning so the queue chases itself around in a circle.