Data Structure

Year 2013

Answer Any Five Question

1. Choose the correct answer from the following:
   a. A balanced binary tree is a binary tree in which the heights of two subtree of every node never differ by more than:
      i. 2
      ii. 1
      iii. 3
      iv. None
   b. The operations that can be performed on a binary tree is / are:
      i. Searching
      ii. Insertion
      iii. Delelctions
      iv. All
   c. Elements in array are identified by a unique:
      i. Data type
      ii. Order
      iii. Subscript
      iv. Symbol
   d. Sorting data means to arrange it in:
      i. Alphabetical order
      ii. Numerical order
      iii. Both 1 & 2
      iv. None
   e. A data structure in which data elements are added and removed only at one end is known as:
      i. Queue
      ii. Stack
      iii. Array
      iv. None
   f. Stack is:
      i. Static data structure
      ii. Dynamic data structure
      iii. Inbuilt data structure
      iv. None
   g. A linked lis is a collection of non-sequential data items:
      i. True
      ii. False
   h. The basic operation performed on stack:

        i. Push

        ii. Pop

        iii. Both 1 & 2

        iv. None

i. A tree is a non-linear data structure:

    i. True

    ii. False

j. A stack is a non-primitive data structure

    i. True

    ii. False

k. A queue is often called:

    i. LIFO

    ii. FIFO

    iii. Both 1 & 2

    iv. None

l. A linked list is a collection of non-sequential data items:

    i. True

    ii. False

m. An array is a collection of identical data objects which are stored in consecutive memory locations under a common heading:

    i. True

    ii. False

n. A binary tree is a finite set of items which is either empty or consists of a single item called:

    i. Root

    ii. Node

    iii. Depth

    iv. None

2. What is recursion? Differentiate between direct and indirect recursion?
3. State limitations of array? Differentiate between one and two dimensional array?
4. What do you mean by queue? What are the practical applications of queue?
5. What are the types of sorting? Gives an algorithm for quick sort?
6. What is data structure? Explain abstract data type with example?
7. Short notes:
   1. Hashing
   2. Doubly linked list
   3. Graphs