

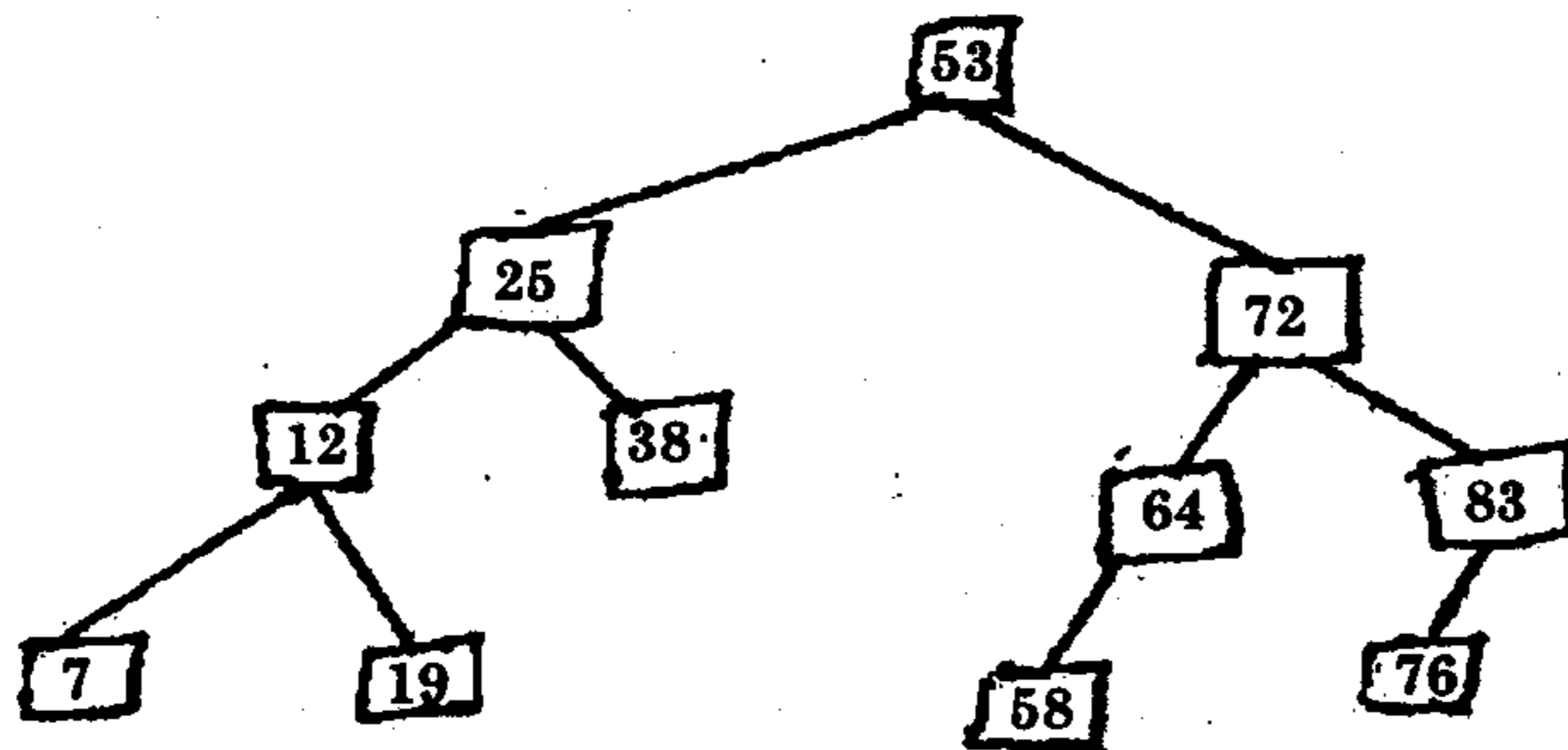
12. (a) (i) Explain the protected data with private and public inheritance. (8)
(ii) Write a C++ program for to solve eight queens problem with friend functions. (8)

Or

- (b) Write an example program for virtual functions and pure virtual functions with suitable algorithm. (16)
13. (a) Write the pseudo code for the following :
- (i) Split a stack into two. The first contains the bottom half elements and the second contains the remaining elements. (8)
(ii) Combine two stacks by placing all elements of the second stack on top of those in the first stack. (8)

Or

- (b) Write an algorithm to perform each of the following operations
- (i) Reverse a list, so that the last element comes first and so on. (5)
(ii) Return the sum of integers in a list. (6)
(iii) Delete every third element from a list. (5)
14. (a) Draw the result of inserting 20, 10 and 24 one by one into the AVL tree given below. Draw the tree after each insertion. Explain the operations of the AVL tree. (16)



Or

- (b) (i) Explain spanning tree and minimal spanning tree with examples. (8)
(ii) Explain the Network flow problems and their solutions. (8)
15. (a) For which sorting divide and conquer technique is used. Write its algorithm with explanation to sort 10 values.

Or

- (b) Give short notes of :
- (i) Merge sort with suitable example. (8)
(ii) Quick sort with suitable example. (8)