

Question :

Suppose that a certain BST has keys that are integers between 1 and 10, and we search for 5. Which sequence below cannot be the sequence of keys examined? Why?

- a. 10, 9, 8, 7, 6, 5
- b. 4, 10, 8, 7, 3, 5
- c. 1, 10, 2, 9, 3, 8, 4, 7, 6, 5
- d. 2, 7, 3, 8, 4, 5
- e. 1, 2, 10, 4, 8, 5

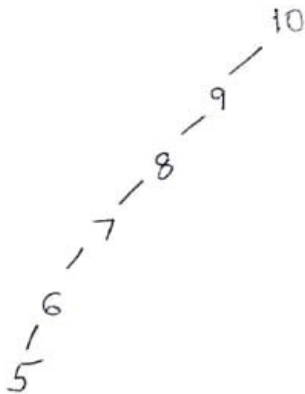
Solution :

11/10/18

Module 16

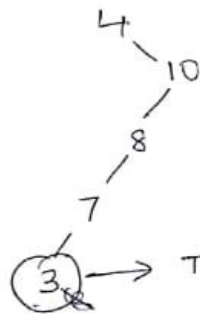
Activity 5

a) 10, 9, 8, 7, 6, 5 (search for 5)



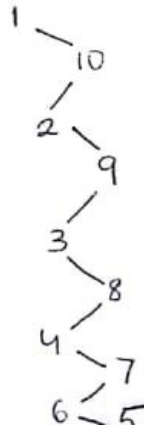
we get a hit for search of 5 since the given sequence is in order. Hence, it is possible.

b) 4, 10, 8, 7, 3, 5 (search for 5)



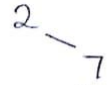
→ The given sequence is not possible as 3 should appear to the left of node root 4.

c) 1, 10, 2, 9, 3, 8, 4, 7, 6, 5



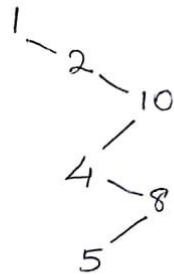
This sequence is possible and we can get a hit for search 5.

d) 2, 7, 3, 8, 4, 5



This is not possible as ~~3~~ 8 should be appeared to the right subtree of 7.

e) 1, 2, 10, 4, 8, 5



This is possible and we get a hit for search of 5.