Roll No. _____ Section BS SE 3A

National University of Computer and Emerging Sciences, Lahore Campus

Course:	Data Structures	Course Code:	CS 201
Program:	BS(SE)	Semester:	Fall 2021
Duration:	15 Minutes	Total Marks:	10
Paper Date:	30 Nov 2021	Exam	Quiz 3
Section:	A		

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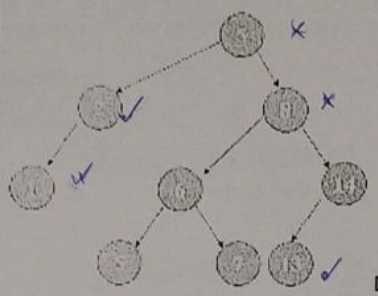
Instruction/Notes: Solve the exam on this question paper.

Question: Write a C++ function in a Binary Search Tree class that counts the number of nodes with one child at different depths of the binary tree and returns it.



Depth 3

Output

No of nodes with one child on
Depth 0 = 0
Depth 1 = 1
Depth 2 = 2
Depth 3 = 0

not checking properly

```
int Count ( Node<T>* curr , int depthNodes )
{   if (curr==0)
        return 0;
    else if (curr->left!=0 && curr->right==0)
    { return 1 + count(curr->left, depthNodes+1)
    else if (curr->right!=0 && curr->left==0)
    { return 1 + Count (curr->right);
      cout << " Depth : " depth+1 << "nodes="
           << depthNodes ;
    }
}
cout<< depthNodes;
}

void Count ()
{   cout << " Nodes = ";
    cout << Count (root->left, 0) + Count (root->right, 0);
}
```