



NUMBER : NAME : SIGNATURE :	EVALUATION				
	1[.....]	2[.....]	3[.....]	4[.....]	SUM[.....]

[Faculty of Engineering Exam Directives](#) must be followed. Questions are related to 1,4,12 of the [Program Learning Outcomes](#)

```
void BinaryTree::eulerLike(TreeNode* v)
{
    if (v->left != NULL)
    {
        cout << v->elem;
        eulerLike(v->left);
    }

    if (v->right != NULL)
    {
        eulerLike(v->right);
        cout << v->elem;
    }

    cout << v->elem;
}

int main()
{
    BinaryTree binaryTree;
    binaryTree.addNode(binaryTree.root, 12);
    binaryTree.addNode(binaryTree.root, 10);
    binaryTree.addNode(binaryTree.root, 14);
    binaryTree.addNode(binaryTree.root, 9);
    binaryTree.addNode(binaryTree.root, 11);
    binaryTree.addNode(binaryTree.root, 13);
    binaryTree.addNode(binaryTree.root, 15);

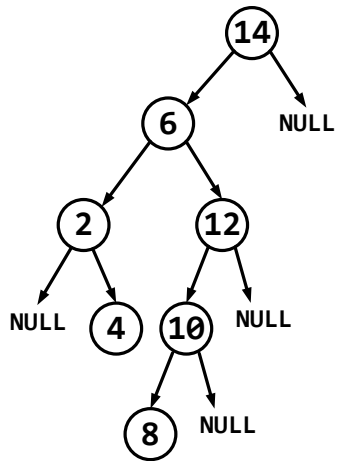
    binaryTree.eulerLike(binaryTree.root);
}
```

1. What is the output of the program above? (30P)

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2. How many times does the function eulerLike() call itself recursively? (30P)

- A)4 B)6 C)8 D)10 E)12



3. Which pattern produces the **Splay** tree above? (40P)

- (A) 8 4 12 2 6 10 14
- (B) 8 4 12 6 2 10 14
- (C) 8 4 12 6 10 2 14
- (D) 8 4 12 10 6 2 14
- (E) 8 4 12 2 10 6 14