CP2410 Practical 05

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Question 1

a. The root node is `'/user/rt/courses/'`.

b. There are 8 internal nodes, those are: `'/user/rt/courses/'`, `'cs016/'`, `'cs252/'`, `'homeworks/'`, `'programs/'`, `'projects/'`, `'papers/'`, and `'/demos'`.

c. The node `'cs016/'` has 9 descendants.

d. The node `'cs016/'` has one ancestor.

e. The siblings for node `'homeworks/'` are `'grades'` and `'programs/'`.

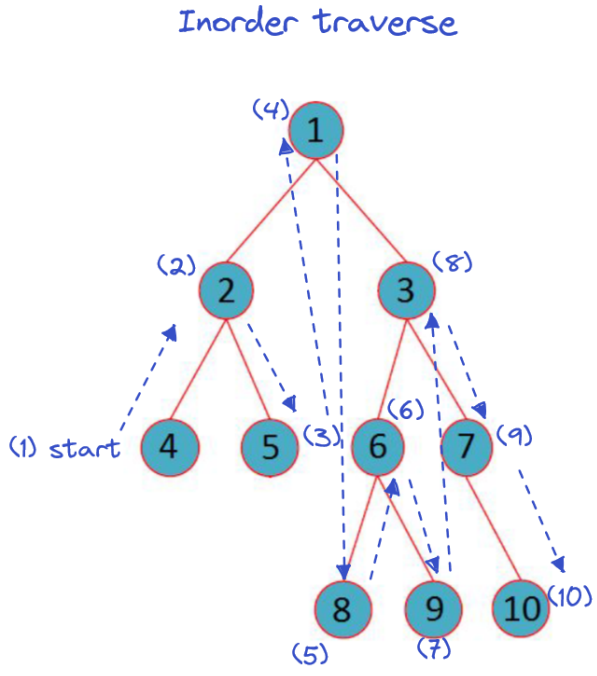
f. There are 5 nodes in the subtrees rooted at node `'projects/'`, those are: `'papers/'`, `'demos/'`, `'buylow'`, `'sellhigh'`, and `'market'`.

g. The depth of node `'papers/'` is 3.

h. The height of the tree is 4.

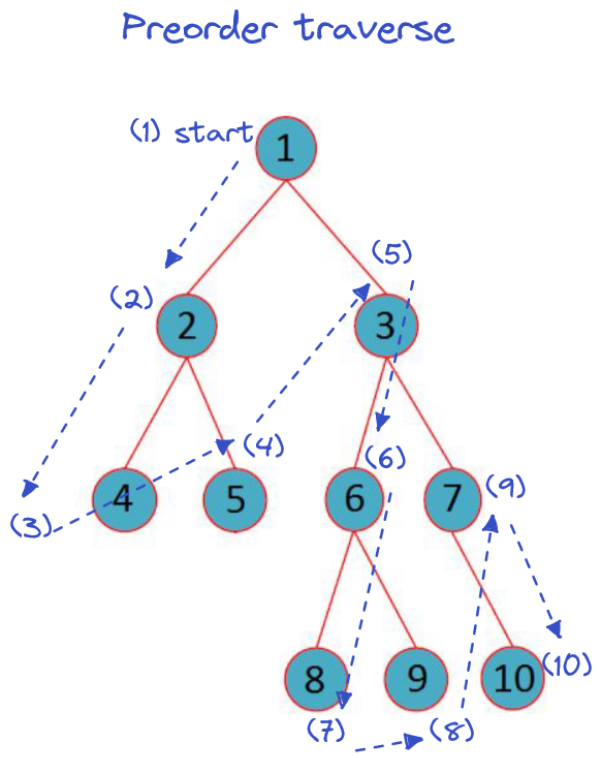
Question 2

a. the inorder traversal should look like this:



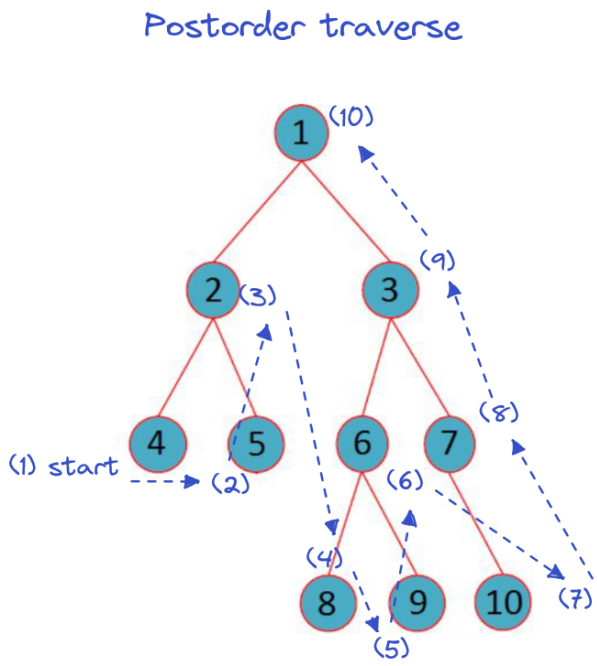

```
Output: 4 2 5 1 8 6 9 3 7 10
```

b. the preorder traversal should look like this:




```
Output: 1 2 4 5 3 6 8 9 7 10
```

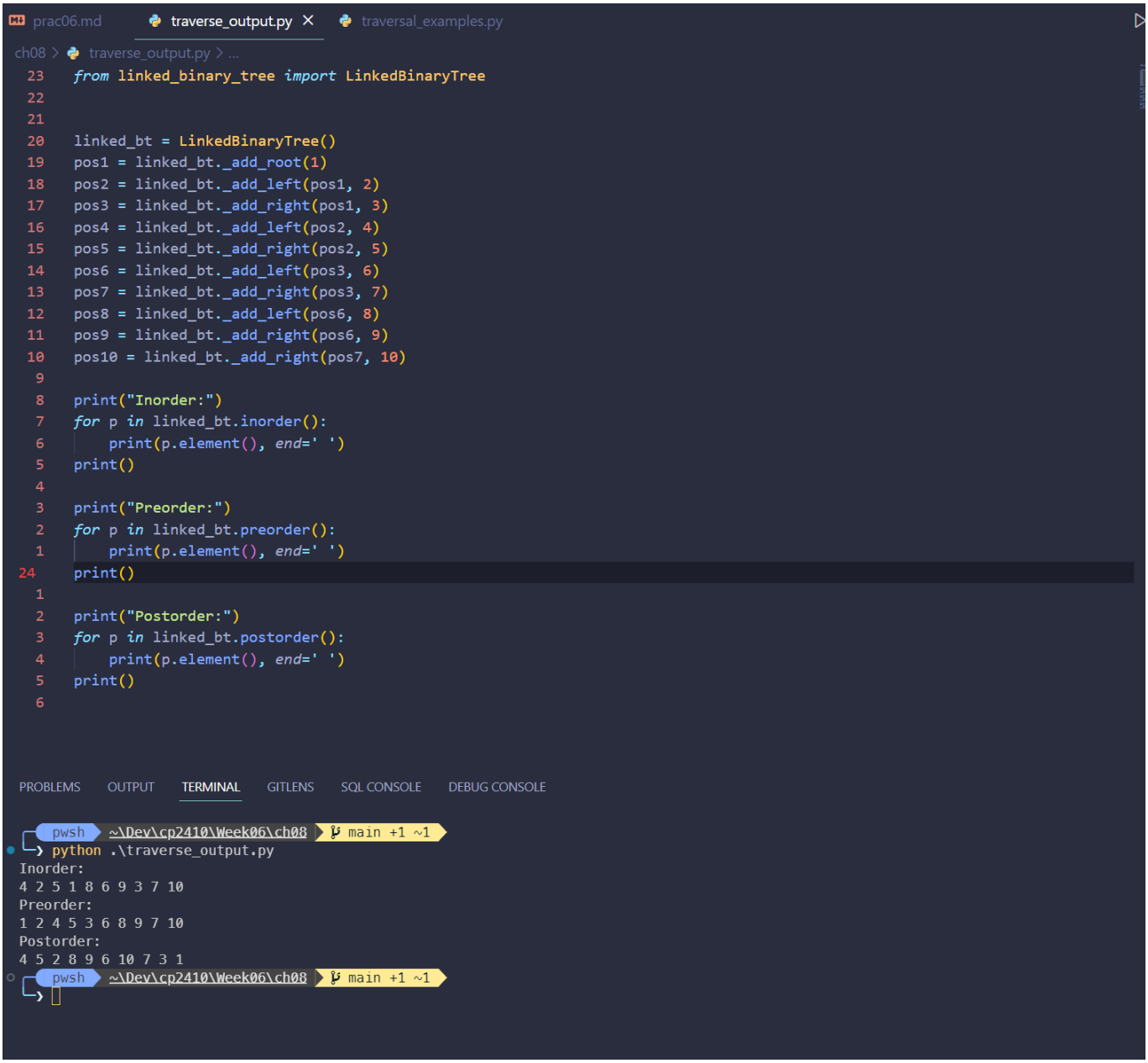
c. the postorder traversal should look like this:




```
Output: 4 5 2 8 9 6 10 7 3 1
```

Question 3

Here is the screenshot of the linked binary tree and its three traverse methods implementation code:



outputs are the same as my answer in Q2.