

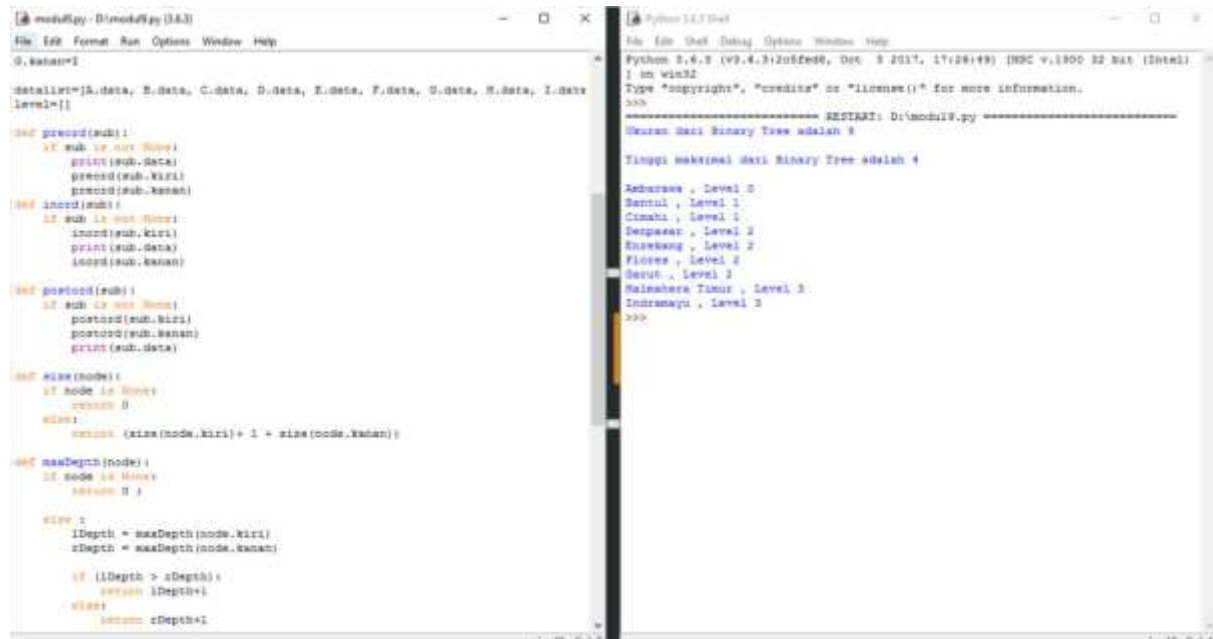
Nama : Listian Prihutomo

NIM : L200170175

Kelas : E

Modul 9

Nomor 6 dan 7



```
[modul9.py - D:\modul9.py (3.6.3)]
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G.kanan=1

detailList=[A.data, E.data, C.data, D.data, E.data, F.data, G.data, H.data, I.data]
level=[]

def preorder(sub):
    if sub is not None:
        print(sub.data)
        preorder(sub.kiri)
        preorder(sub.kanan)
    else:
        sub is not None:
            preorder(sub.kiri)
            print(sub.data)
            preorder(sub.kanan)

def postorder(sub):
    if sub is not None:
        postorder(sub.kiri)
        postorder(sub.kanan)
        print(sub.data)

def size(node):
    if node is None:
        return 0
    else:
        return (size(node.kiri)+ 1 + size(node.kanan))

def maxDepth(node):
    if node is None:
        return 0
    else:
        lDepth = maxDepth(node.kiri)
        rDepth = maxDepth(node.kanan)

        if (lDepth > rDepth):
            return lDepth+1
        else:
            return rDepth+1

def traverse(root):
    lvlist=[]
    current_level = [root]
    lv=0
    while current_level:
        print(' '.join(str(node) for node in current_level))
        next_level = []
        for n in current_level:
            if n.kiri:
                next_level.append(n.kiri)
                level.append(lv+1)
            if n.kanan:
                next_level.append(n.kanan)
                level.append(lv+1)
            current_level = next_level

        lv+=1
        lvlist.append(lv)
    return lvlist

def detailDataLevel(root):
    traverse(A)
    print('root.data, '. level 0')
    for i in range(len(level)):
        print(detailList[i+1], '. level', level[i])

print('Urutan dari Binary Tree adalah', size(A))
print('')
print('Tinggi maksimal dari Binary Tree adalah', maxDepth(A))
print('')
detailDataLevel(A)
```

```
Python 3.6.3 Shell
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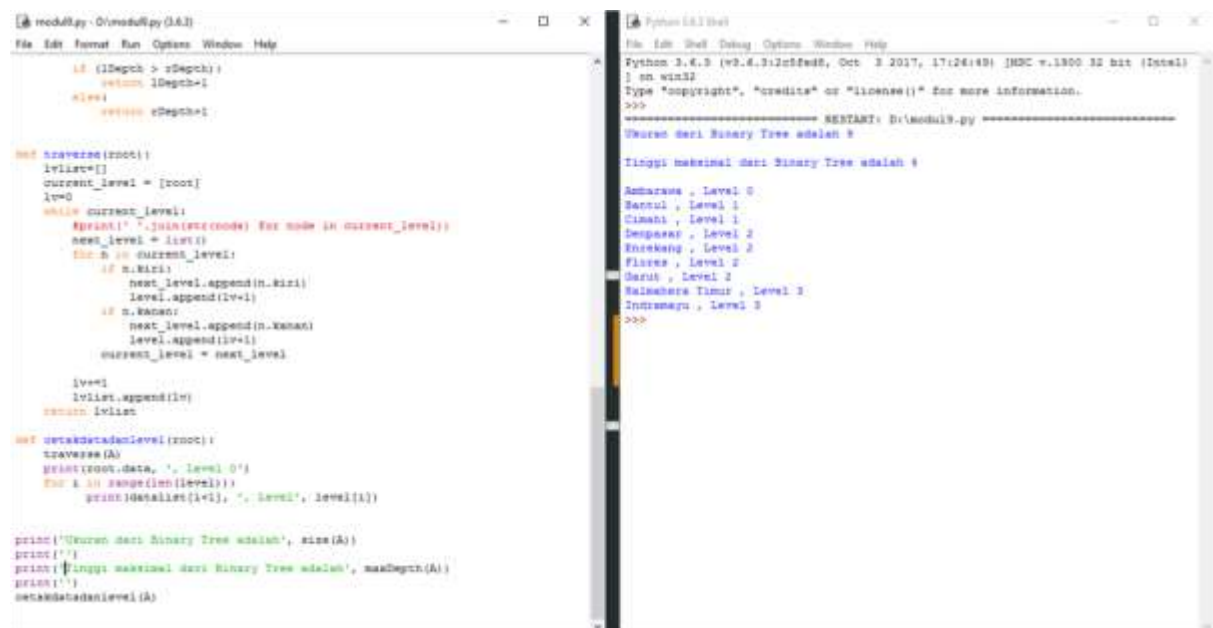
Python 3.6.3 (v3.6.3:26b4e50, Oct 8 2017, 17:26:49) [MSC v.1900 32 bit (Intel)]
> on win32
Type "copyright", "credits" or "license()" for more information.
>>>

===== RESTART: D:\modul9.py =====
Urutan dari Binary Tree adalah 9

Tinggi maksimal dari Binary Tree adalah 4

Ambarawa , Level 0
Bantul , Level 1
Cimahi , Level 1
Dempasar , Level 2
Enrekang , Level 2
Flores , Level 2
Geruk , Level 2
Malakheha Timur , Level 3
Intramayu , Level 3
>>>
```

Nomor 8



```
[modul9.py - D:\modul9.py (3.6.3)]
File Edit Format Run Options Window Help

def traverse(root):
    lvlist=[]
    current_level = [root]
    lv=0
    while current_level:
        print(' '.join(str(node) for node in current_level))
        next_level = []
        for n in current_level:
            if n.kiri:
                next_level.append(n.kiri)
                level.append(lv+1)
            if n.kanan:
                next_level.append(n.kanan)
                level.append(lv+1)
            current_level = next_level

        lv+=1
        lvlist.append(lv)
    return lvlist

def detailDataLevel(root):
    traverse(A)
    print('root.data, '. level 0')
    for i in range(len(level)):
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print('Urutan dari Binary Tree adalah', size(A))
print('')
print('Tinggi maksimal dari Binary Tree adalah', maxDepth(A))
print('')
detailDataLevel(A)
```

```
Python 3.6.3 Shell
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Urutan dari Binary Tree adalah 9

Tinggi maksimal dari Binary Tree adalah 4

Ambarawa , Level 0
Bantul , Level 1
Cimahi , Level 1
Dempasar , Level 2
Enrekang , Level 2
Flores , Level 2
Geruk , Level 2
Malakheha Timur , Level 3
Intramayu , Level 3
>>>
```