

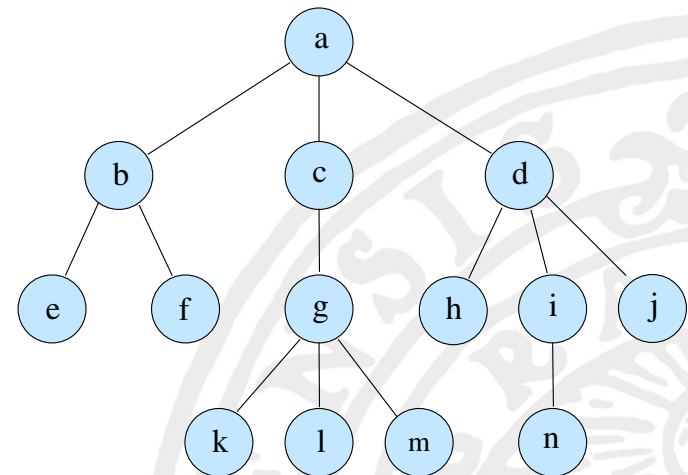
MA3: Tree structures

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Terminology:

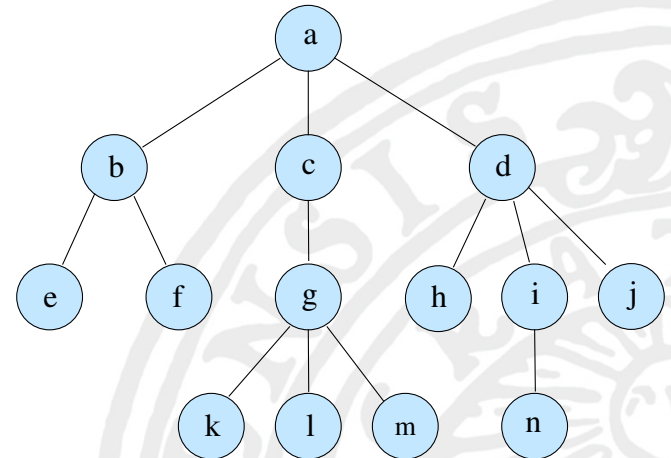
- Nodes
- Root
- Leefs
- Children
- Siblings
- Height
- Size



Operations in trees

Operations on trees:

- Enter new nodes
- Remove nodes
- Traverse the tree
- Search a node with a particular contents
- Search a node in a particular position
- Merge trees
- Measurements:
 - Height
 - Size
 - Path length

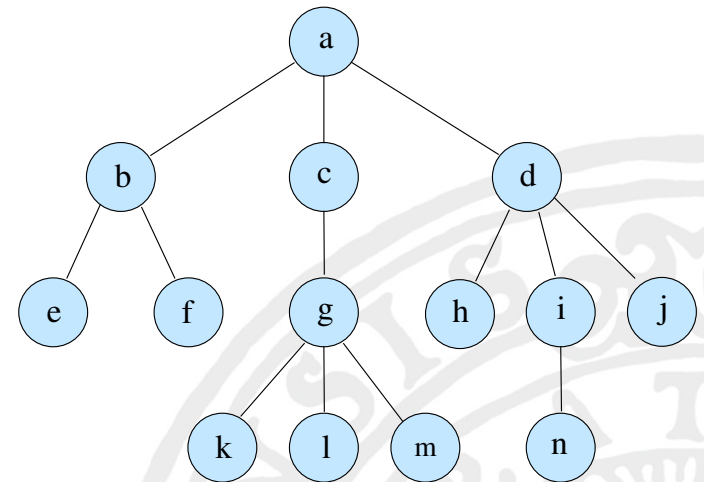


Tree traversals

Preorder: a b e f c g k l m d h i n j

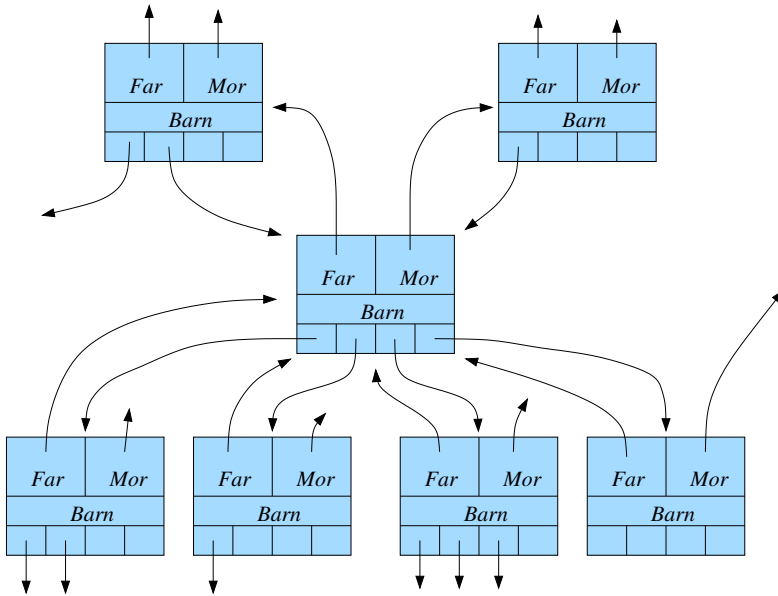
Postorder: e f b k l m g c h n i j d a

Level order: a b c d e f g h i j k l m n





More complicated structures



```
class Person:
    def __init__(self, name,
                  mother=None,
                  father=None):
        self.name = name
        self.mother = mother
        self.father = father
        self.children = []

    def add_child(self, child):
        self.children.append(child)
```



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The end

