insert S

insert E



convert 2-node into 3-node

insert E



insert A



insert A



insert A



convert 3-node into 4-node

insert A

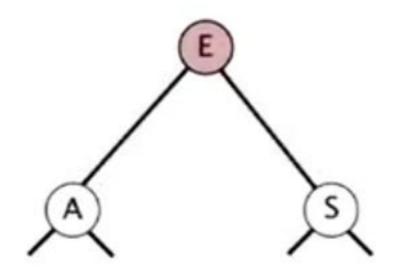


insert A

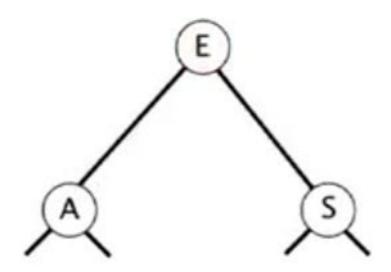


split 4-node (move E to parent)

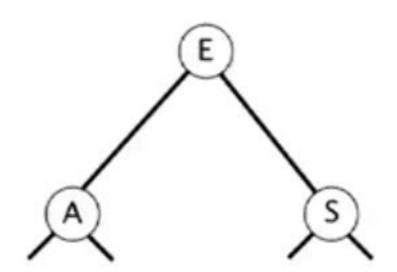
## insert A



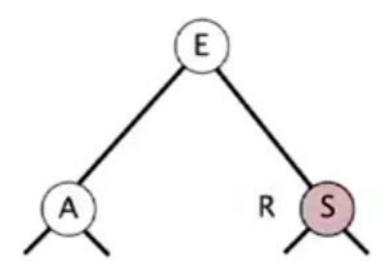
2-3 tree



## insert R

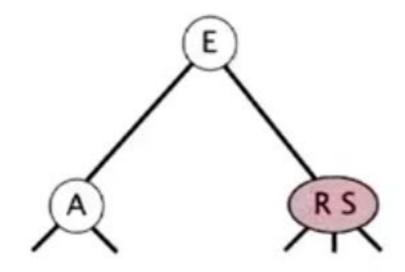


#### insert R

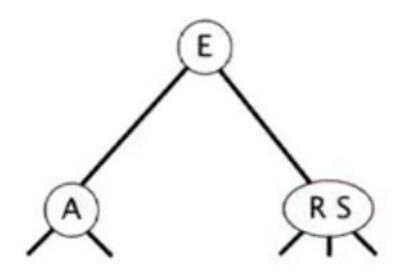


convert 2-node into 3-node

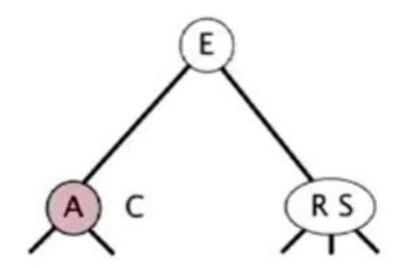
## insert R



## insert C

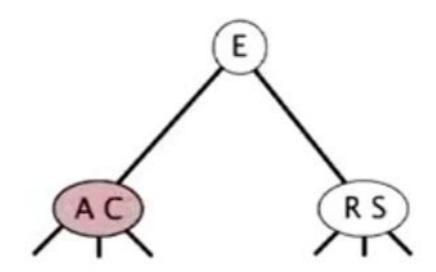


#### insert C

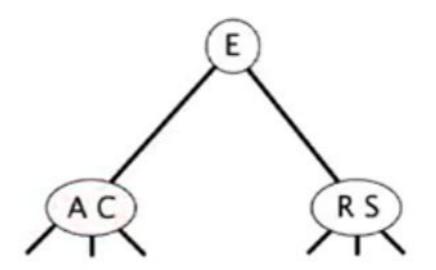


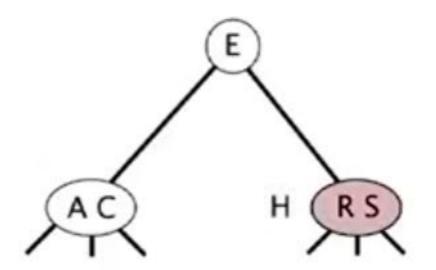
convert 2-node into 3-node

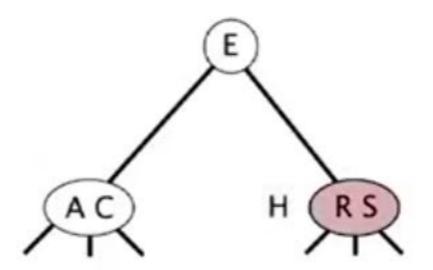
## insert C



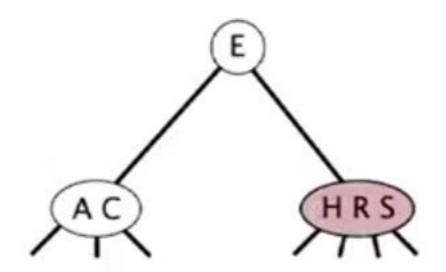
2-3 tree

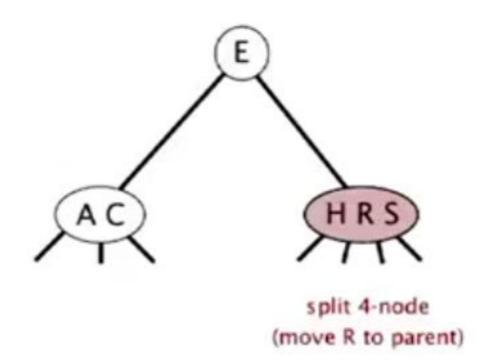


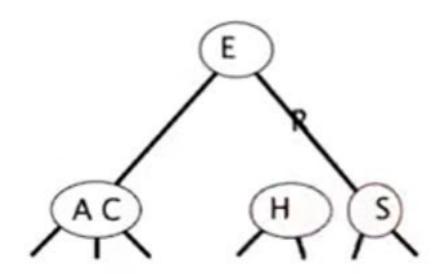


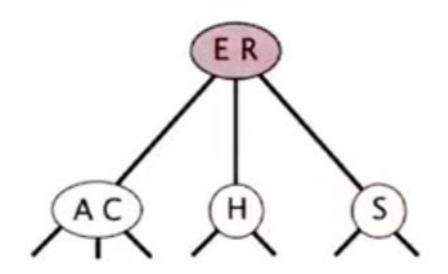


convert 3-node into 4-node

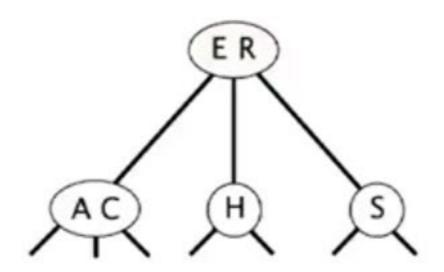


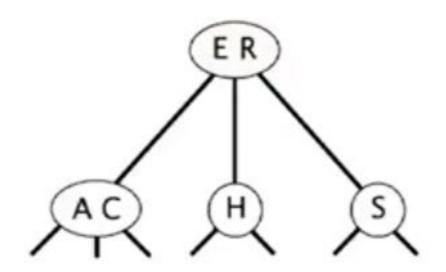


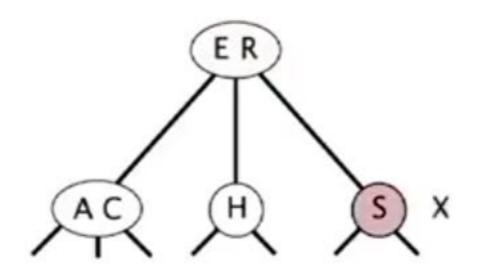


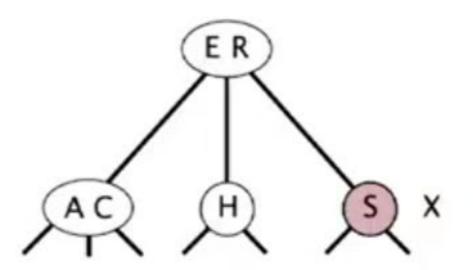


2-3 tree

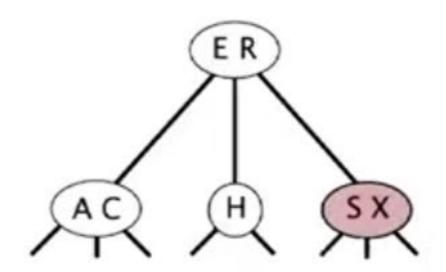




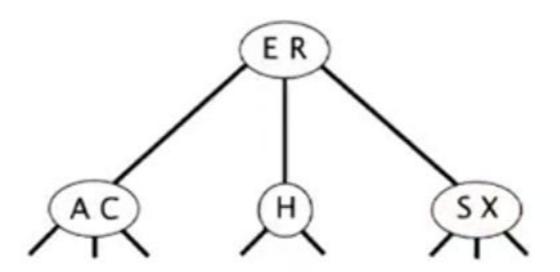




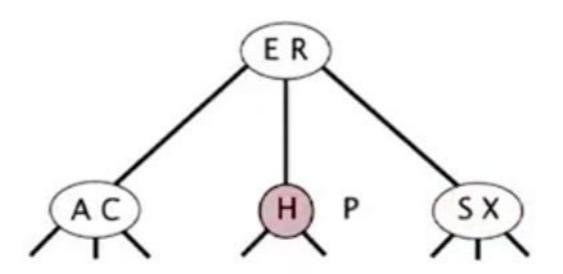
convert 2-node into 3-node



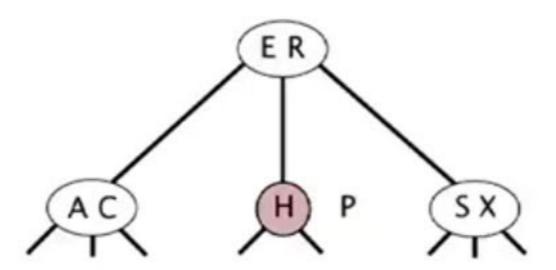
## 2-3 tree



## insert P

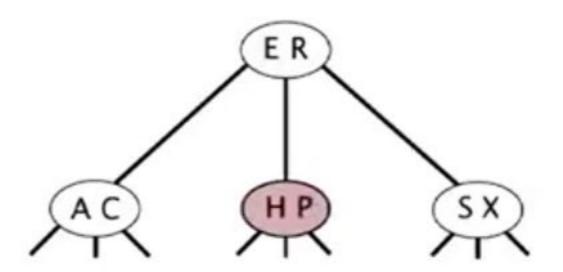


#### insert P

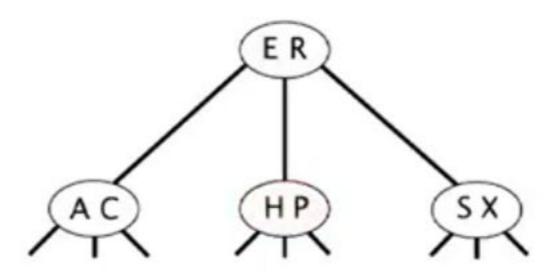


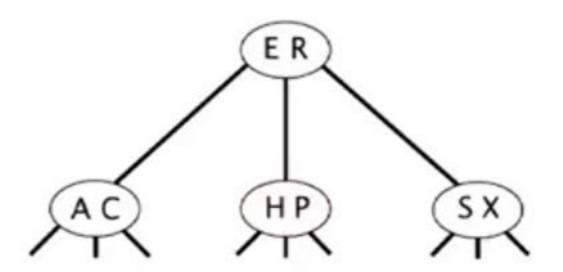
convert 2-node into 3-node

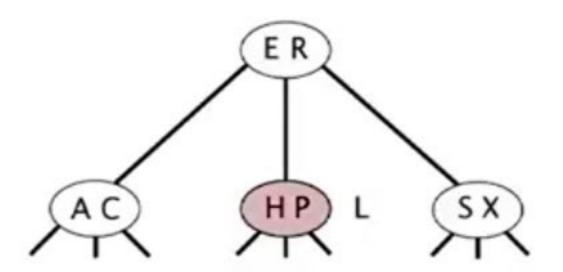
## insert P

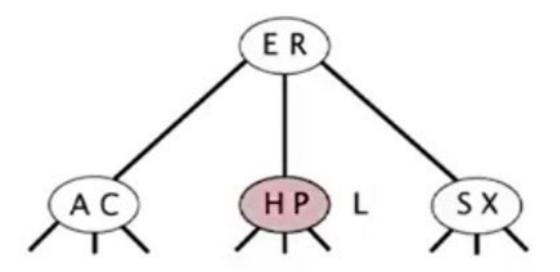


## 2-3 tree

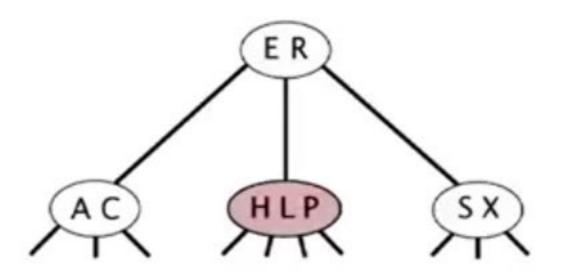


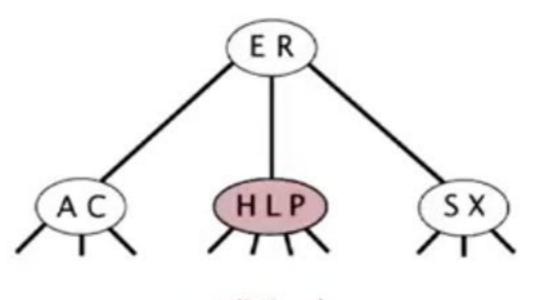




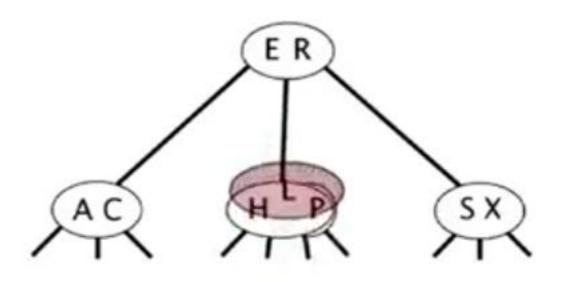


convert 3-node into 4-node

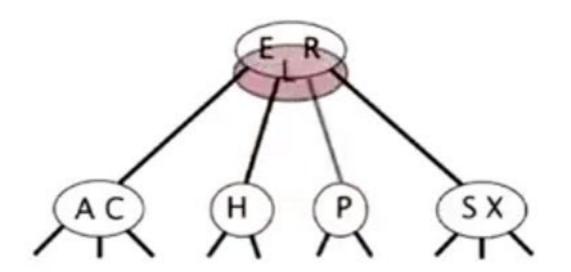


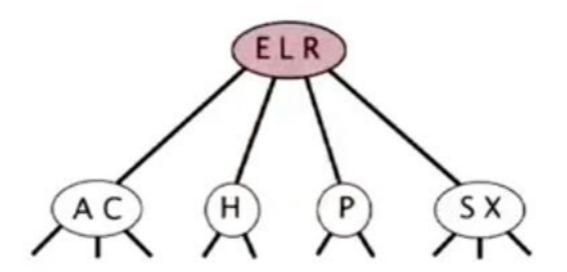


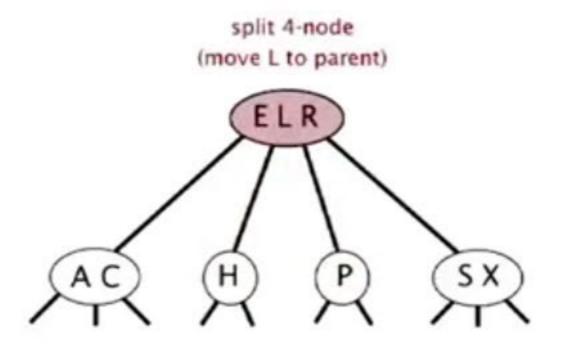
split 4-node (move L to parent)

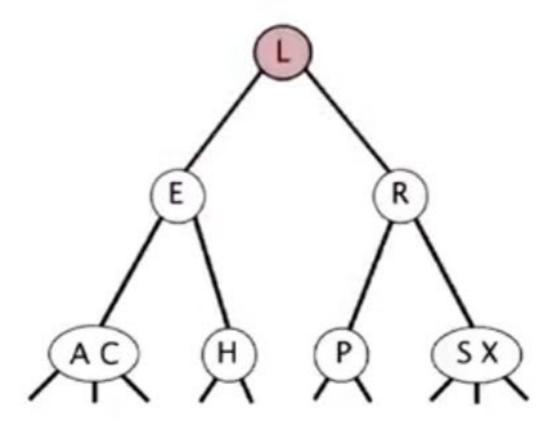


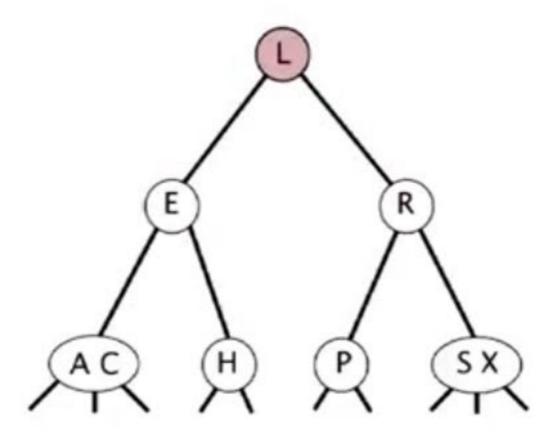
split 4-node (move L to parent)











## 2-3 tree

