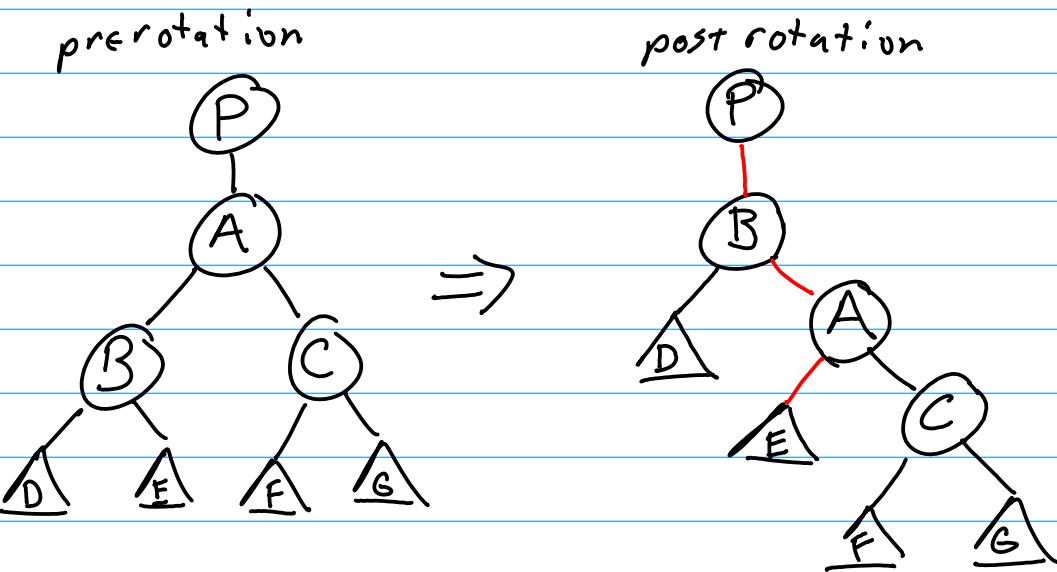


prove that rotating right about a node in a BST will result in a BST



only the links in red are new after the rotation, so just need to prove that they do not violate the rules of a BST.

sub proof 1: The link from B to A is valid
 The link from B to A is valid if $B < A$.
 B is to the left of A in the prerotation tree so $B < A$

sub proof 2: The link from A to E is valid
 The link from A to E is valid if $A > E$
 E is in the left subtree of A in the prerotation tree so $A > E$

sub proof 3: The link from P to B is valid
 case 1: A is a right child of P in the prerotated tree

Then the link from P to B is valid if $P < B$
B is the right subtree of P in the
prerotation tree so $P < B$

case 2: A is a left child of P in the
prerotated tree

Then the link from P to B is valid if $P > B$
B is in the left subtree of P in the
prerotation tree so $P > B$