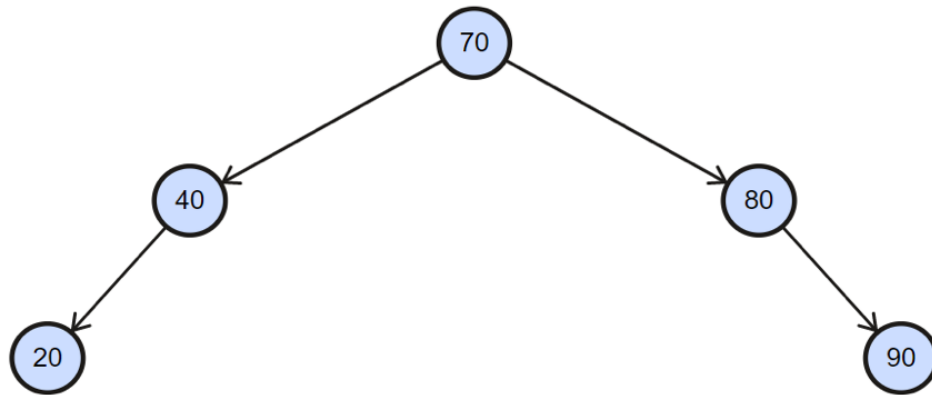


# CSC 212 Tutorial Solution

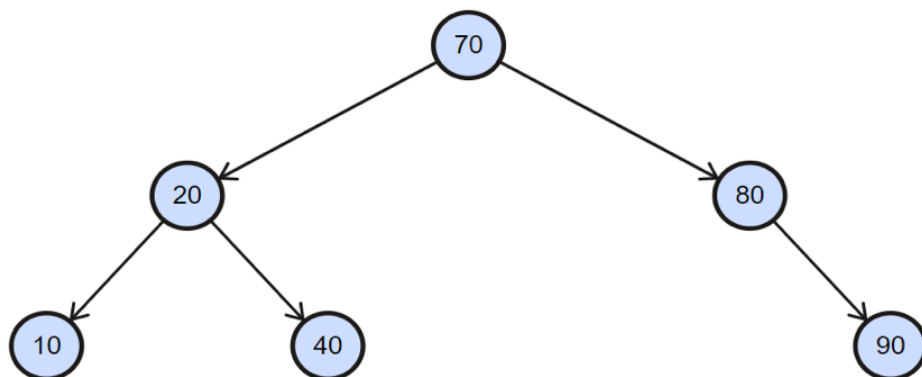
## AVL

### Problem 1

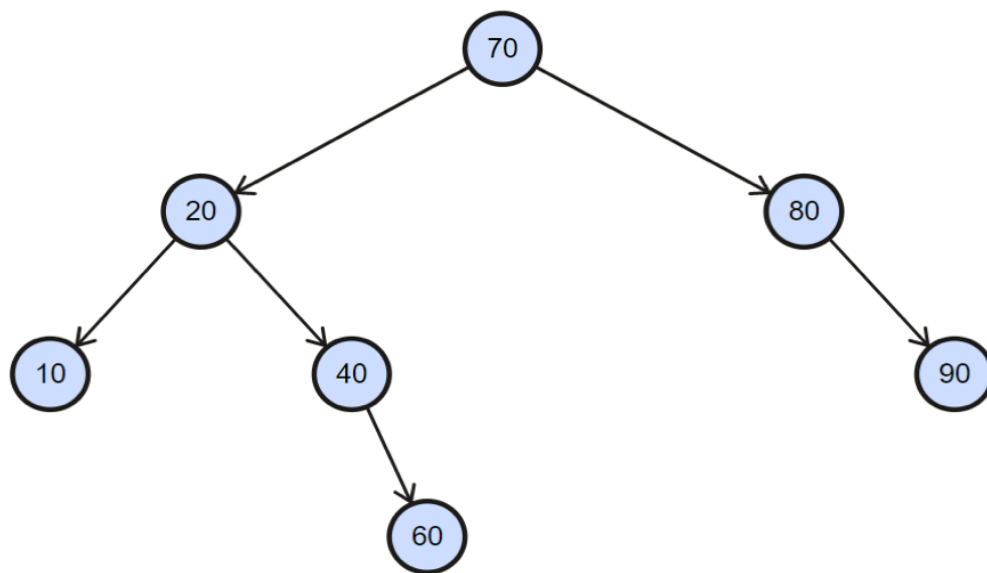
1. Inserting



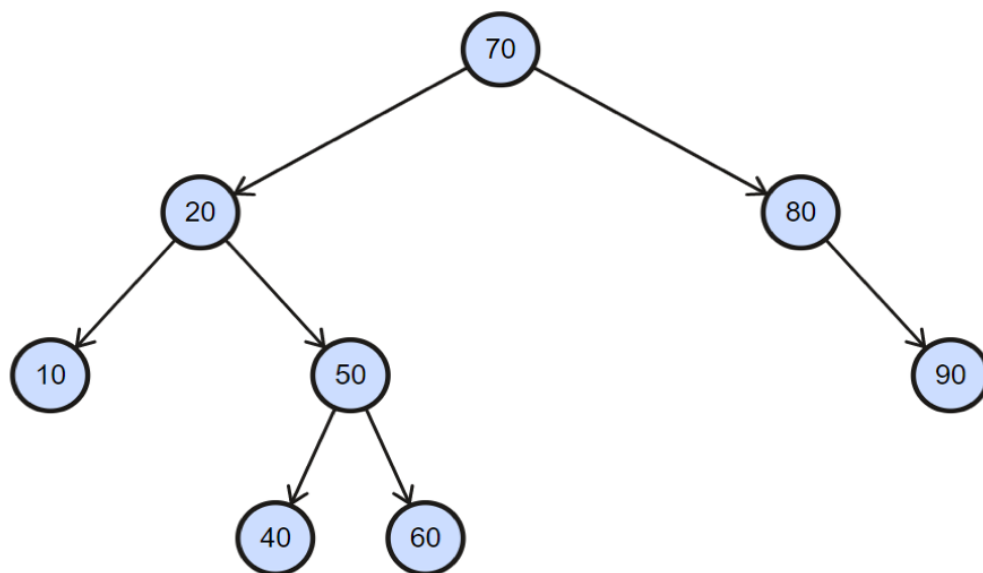
Inserting (70, 80, 40, 20, 90): no adjustments



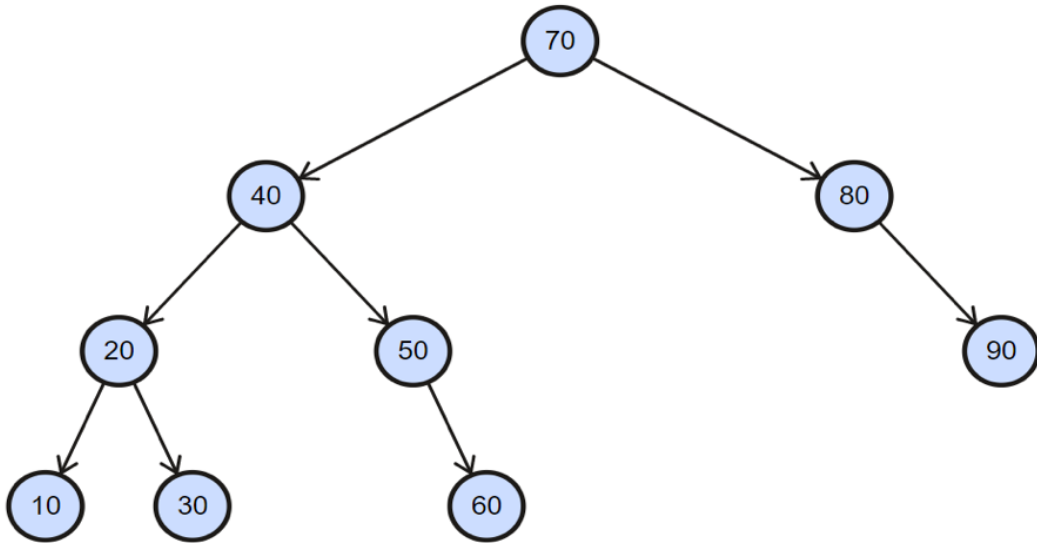
Inserting (10): single rotation to the right



Inserting (60): no adjustments

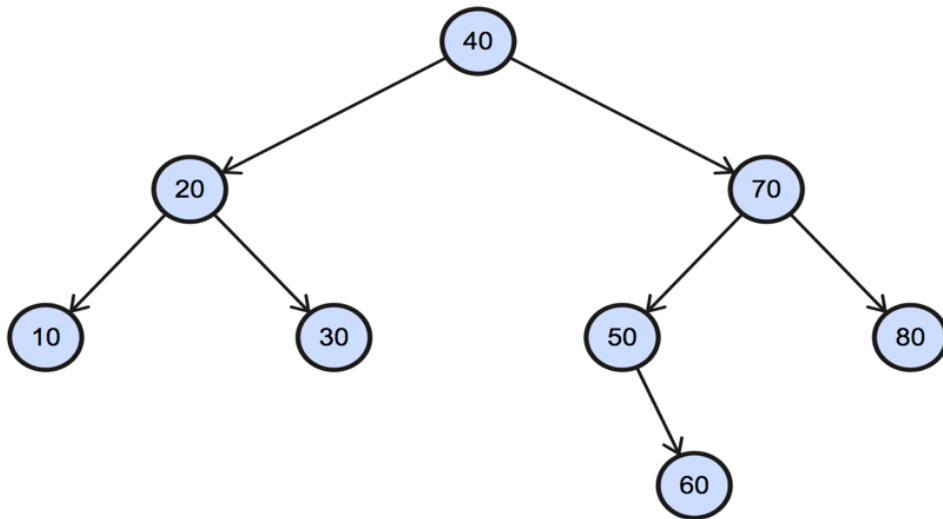


Inserting (50): double rotation left-right

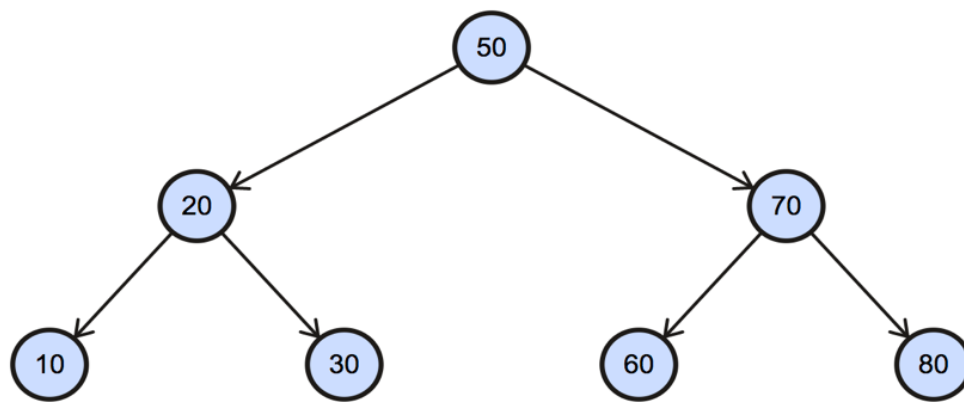


Inserting (30): double rotation left-right

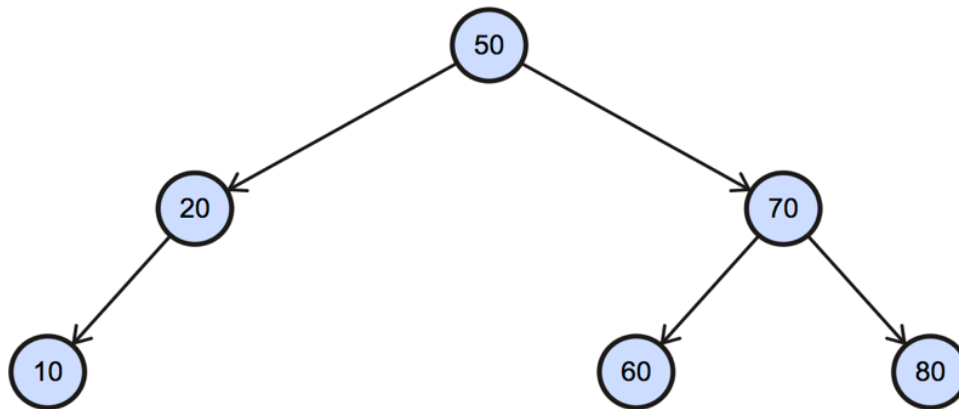
2. Removing



Removing (90): single rotation to the right

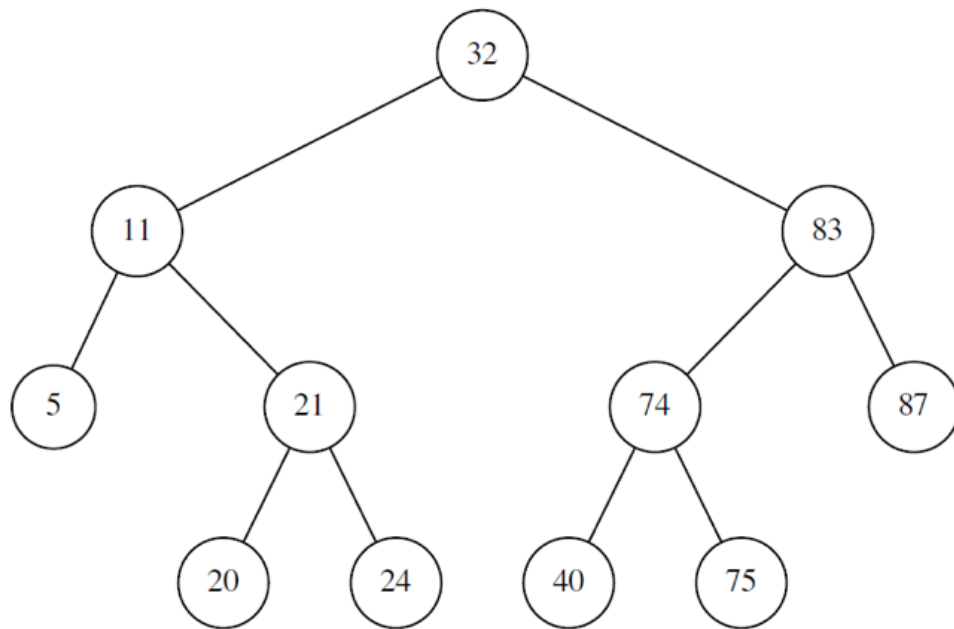


Removing (40): no adjustments

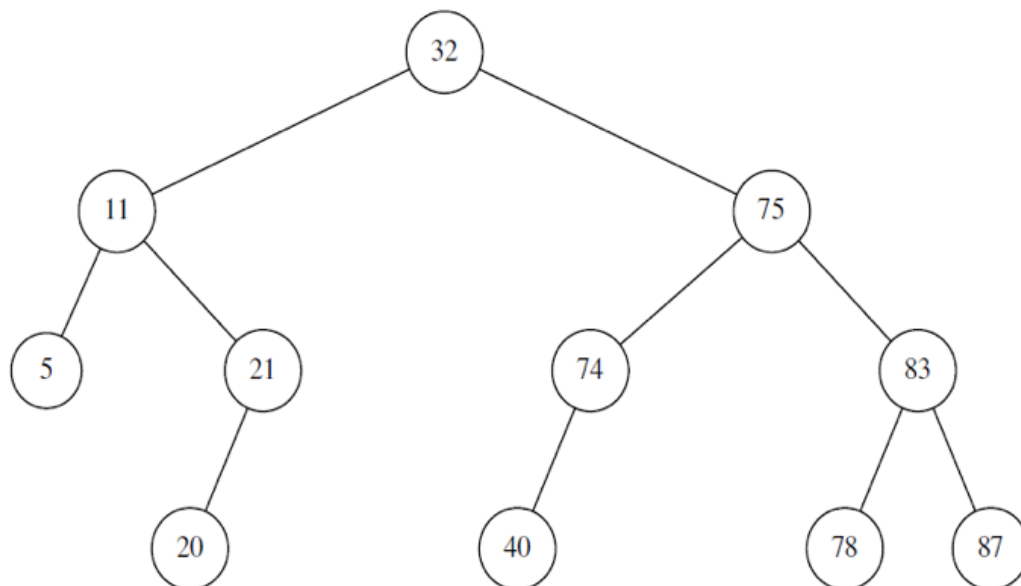


Removing (30): no adjustments

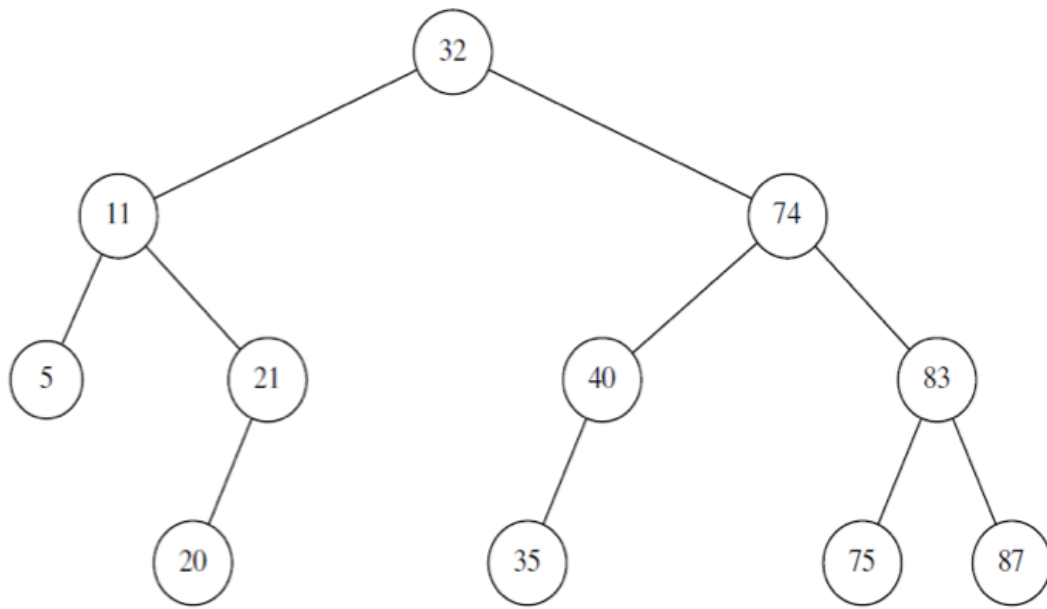
## Problem 2



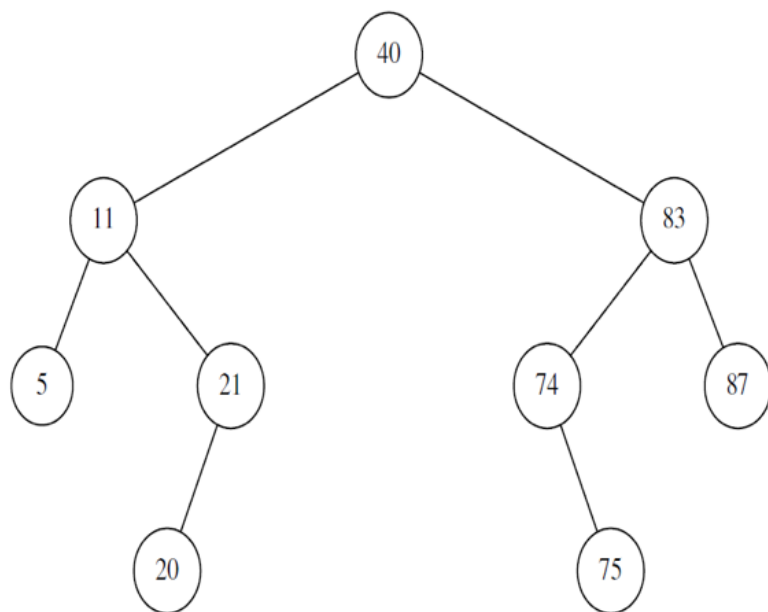
Inserting 24, no rotation



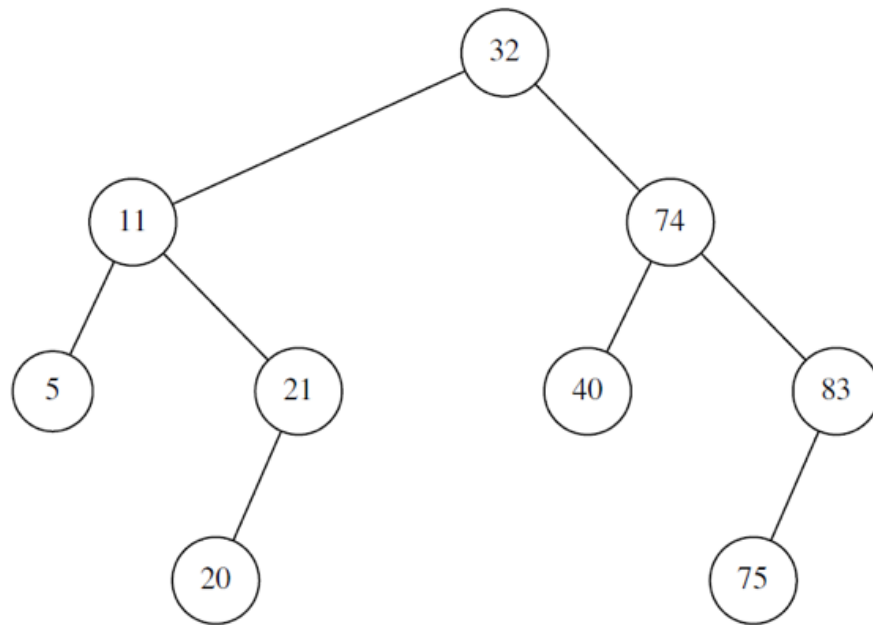
Inserting 78, double rotation



Inserting 35, single rotation



Removing 32, no rotation



Removing 87, single rotation