HABIB UNIVERSITY

Data Structures & Algorithms

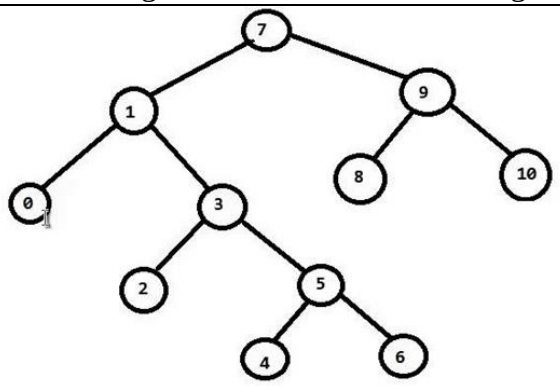
CS/CE 102/171 Spring 2023

Instructor: Maria Samad

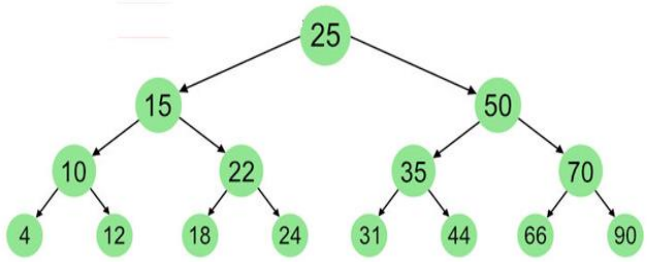
Binary Tree Representation – Linked Structure

Student Name: _____

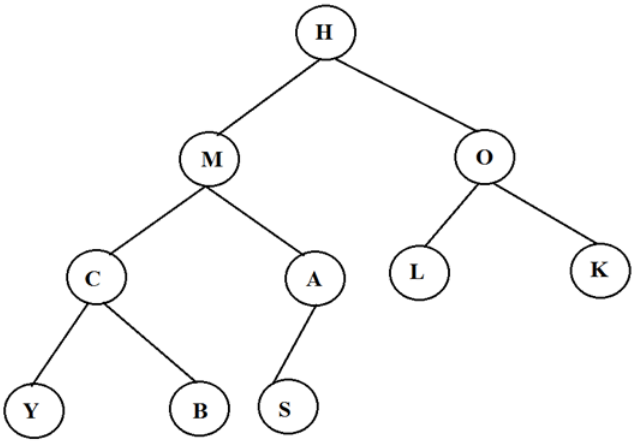
For the given trees, define them using Linked Structures (implemented using Nested Dictionaries):



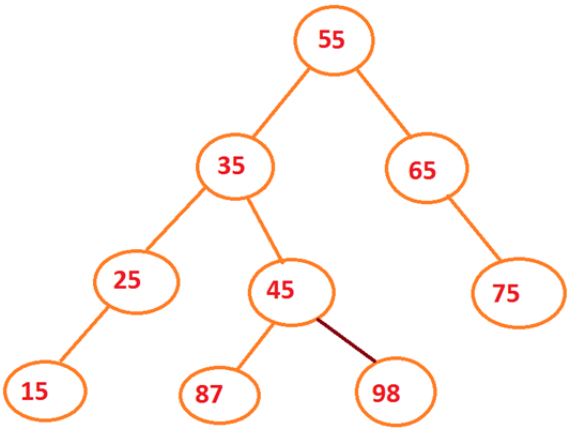
T = {Root: 7, Left: {Root: 1, Left: 0, Right: {Root: 3, Left: 2, Right: {Root: 5, Left: 4, Right: 6} } }, Right: {Root: 9, Left: 8, Right: 10} }



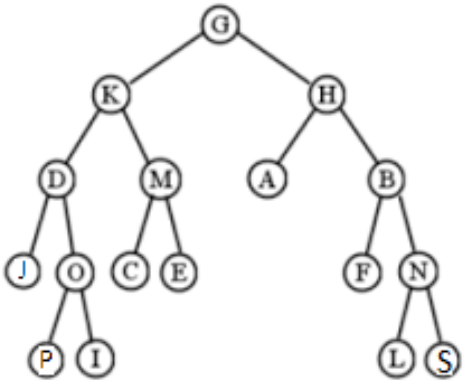
T = {Root: 25, Left: {Root: 15, Left: {Root: 10, Left: 4, Right: 12}, Right: {Root: 22, Left: 18, Right: 24} }, Right: {Root: 50, Left: {Root: 35, Left: 31, Right: 44}, Right: {Root: 70, Left: 66, Right: 90} } }



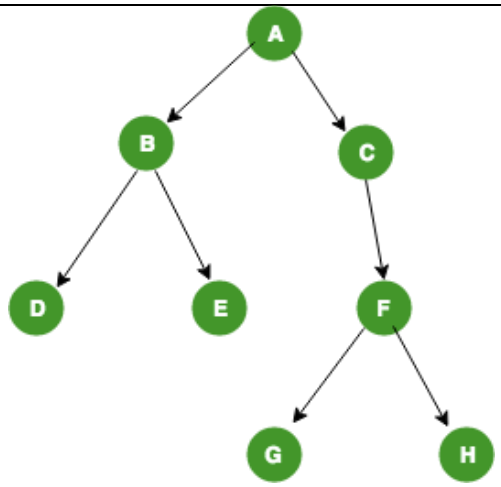
T = {Root: H, Left: {Root: M, Left: {Root: C, Left: Y, Right: B}, Right: {Root: A, Left: S, Right: None} }, Right: {Root: O, Left: L, Right: K} }



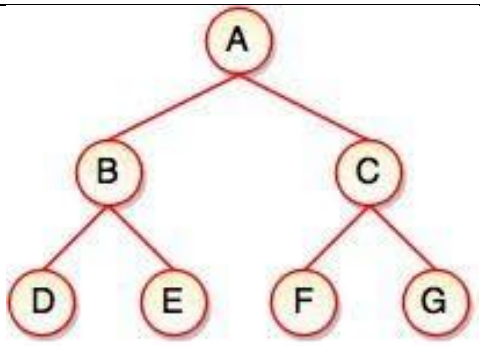
T = {Root: 55, Left: {Root: 35, Left: {Root: 25, Left: 15, Right: None}, Right: {Root: 45, Left: 87, Right: 98} }, Right: {Root: 65, Left: None, Right: 75} }



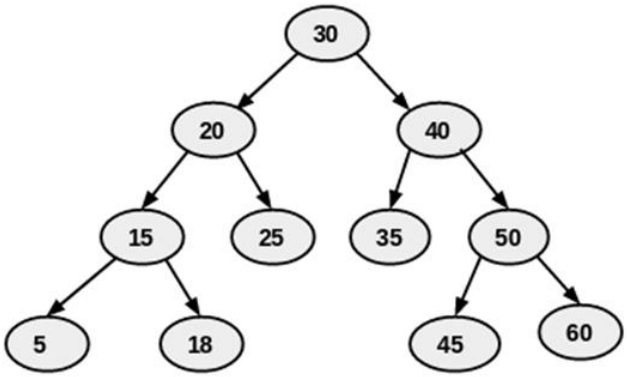
T = {Root: G, Left: {Root: K, Left: {Root: D, Left: J, Right: {Root: O, Left: P, Right: I} }, Right: {Root: M, Left: C, Right: E} }, Right: {Root: H, Left: A, Right: {Root: B, Left: F, Right: {Root: N, Left: L, Right: S} } } }



T = {Root: A, Left: {Root: B, Left: D, Right: E}, Right: {Root: C, Left: None, Right: {Root: F, Left: G, Right: H} } }



T = {Root: A, Left: {Root: B, Left: D, Right: E}, Right: {Root: C, Left: F, Right: G} }



T = {Root: 30, Left: {Root: 20, Left: {Root: 15, Left: 5, Right: 18}, Right: 25}, Right: {Root: 40, Left: 35, Right: {Root: 50, Left: 45, Right: 60} } }