Tree Nodes	Vertices
r_1	1,2,8,9,10,11,16,17,18,23
r_2	12,13,14,15
r_3	19,20,21,22
r_4	3,4,5,6,7

Tree Nodes	Vertices
r_1	1,2,9,10,16,17,18
r_2	8,11,12,13,14,15,19,20,21,22,23
r_3	3,4,5,6,7