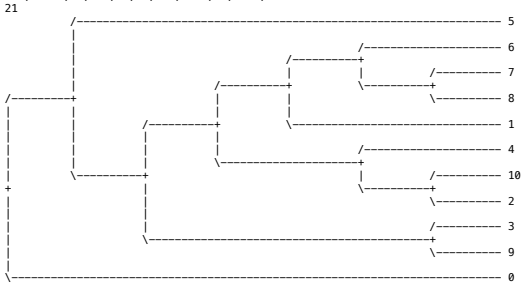
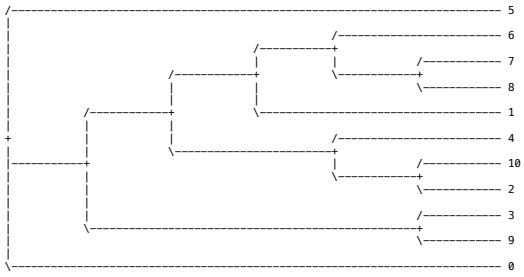
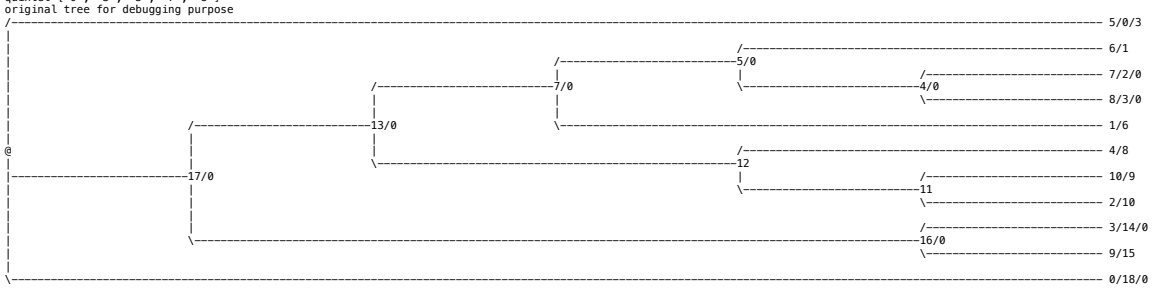
 ********** Model Condition -model.10.5400000.0.000000037/ Replicate 1/ **********
before derooting
((5,((((6,(7,8)),1),(4,(10,2))),(3,9))),0)
21



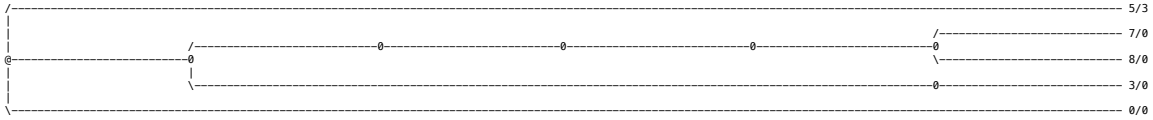
 Now the tree is derooted
 Derooted tree
(5,((((6,(7,8)),1),(4,(10,2))),(3,9)),0)
20



quintet ['0', '3', '5', '7', '8']
original tree for debugging purpose



 Corresponding 5-taxon tree
U = [499, 249, 252, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0]
 5 - taxon tree

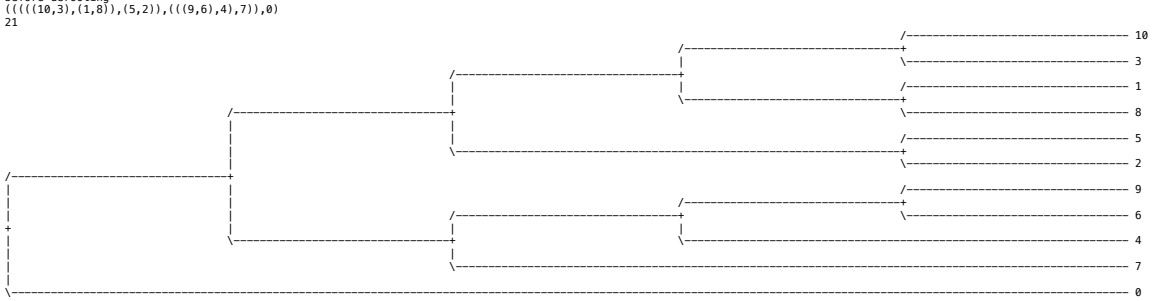


 Newick of the above 5 - taxon tree

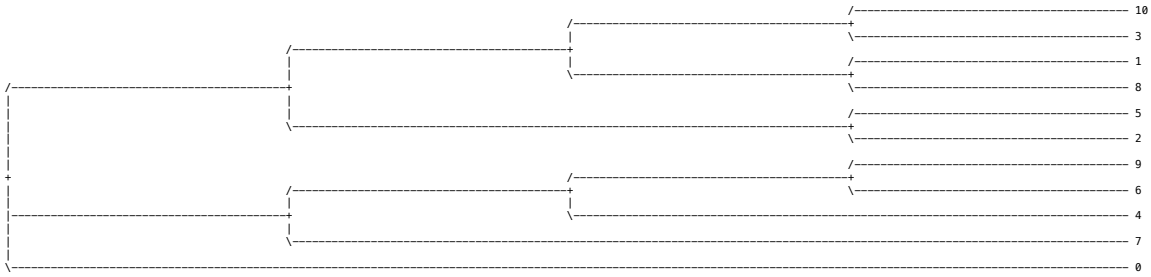
('5/3',(((((7/0','8/0')0)0)0)0),('3/0')0)0,'0/0')

 Analysis:-
 1)best score on the dataset - 0
 2) # edges that have the best score - 10
writted to file

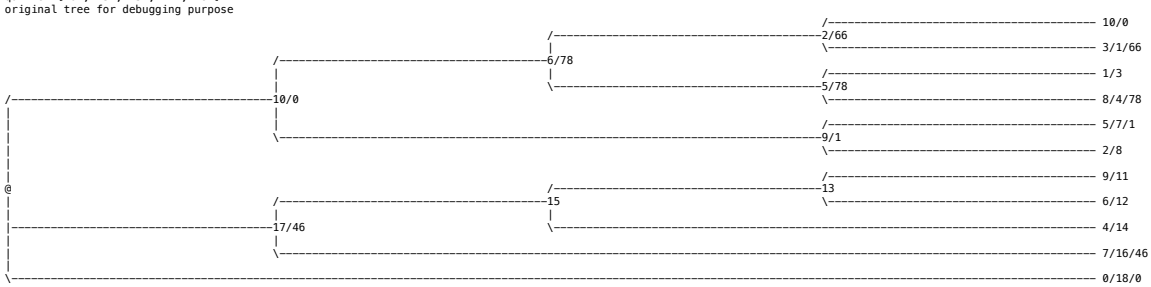
 ********** Model Condition -model.10.5400000.0.000000037/ Replicate 2/ **********
before derooting
(((((10,3),(1,8)),(5,2)),(((9,6),4),7)),0)
21



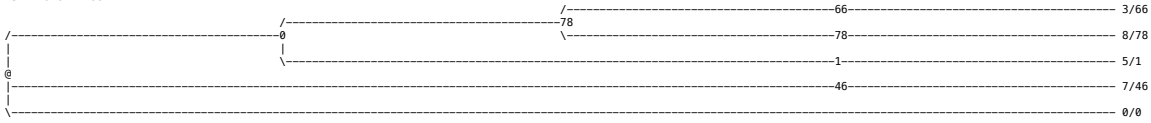
 Now the tree is derooted
 Derooted tree
((((10,3),(1,8)),(5,2)),(((9,6),4),7),0)
20



quintet ['0', '3', '5', '7', '8']
original tree for debugging purpose



 Corresponding 5-taxon tree
U = [149, 98, 127, 96, 63, 80, 22, 33, 93, 20, 22, 61, 95, 26, 15]
 5 - taxon tree

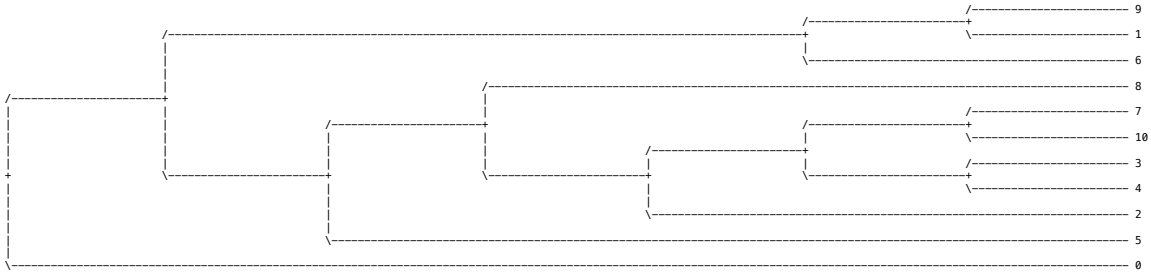


 Newick of the above 5 - taxon tree

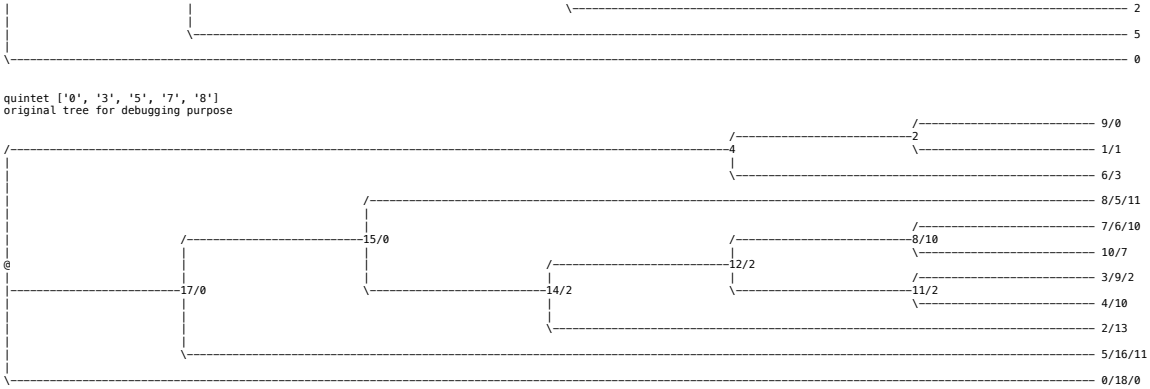
((((‘3/66’)66,(‘8/78’)78)78,(‘5/1’)1)0,(‘7/46’)46,‘0/0’)

 Analysis:-
 1)best score on the dataset - 0
 2) # edges that have the best score - 2
writted to file

 ********** Model Condition -model.10.5400000.0.000000037/ Replicate 3/ **********
before derooting
((((9,1),6),((8,(((7,10),(3,4)),2)),5)),0)
21

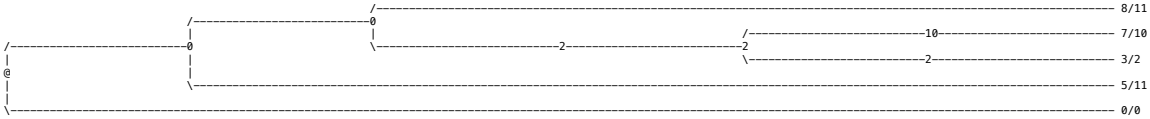


 Now the tree is derooted
 Derooted tree
(((9,1),6),((8,(((7,10),(3,4)),2)),5),0)
20



quintet ['0', '3', '5', '7', '8']
original tree for debugging purpose

Corresponding 5-taxon tree
U = [799, 83, 92, 14, 0, 2, 0, 0, 2, 0, 0, 2, 6, 0, 0]
5 - taxon tree

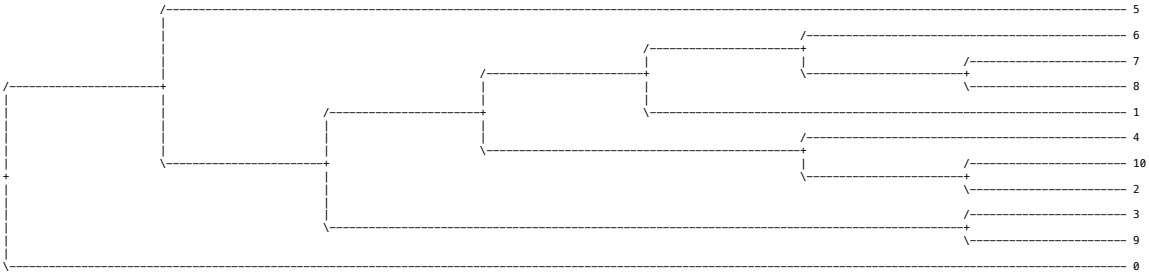


Newick of the above 5 - taxon tree

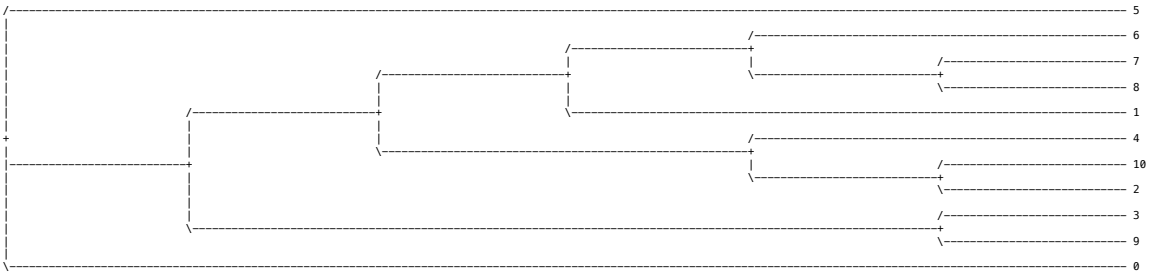
(('8/11',((('7/10')10,('3/2')2)2)2)0,'5/11')0,'0/0')

Analysis:-
1)best score on the dataset - 0
2) # edges that have the best score - 3
writted to file

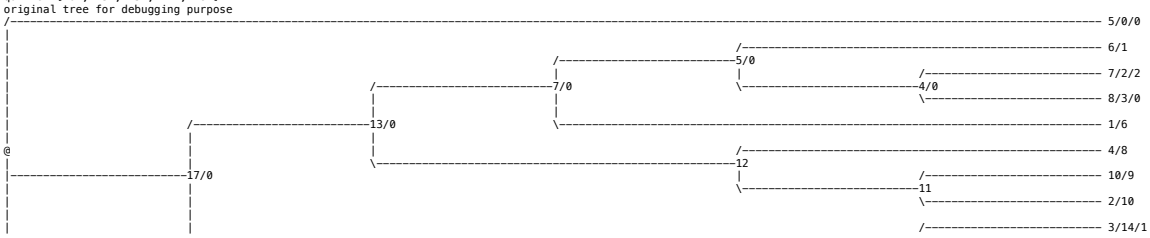
********** Model Condition -model.10.1800000.0.000000111/ Replicate 1/ **********
before derooting
((5,((((6,(7,8)),1),(4,(10,2))),(3,9))),0)
21



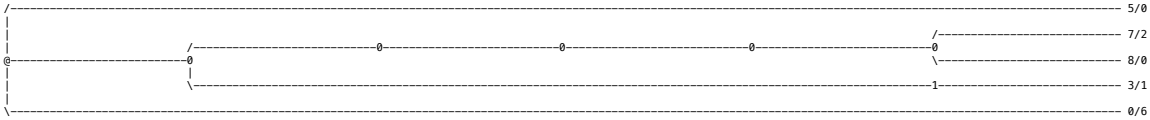
Now the tree is derooted
Derooted tree
(5,((((6,(7,8)),1),(4,(10,2))),(3,9)),0)
20



quintet ['0', '3', '5', '7', '8']
original tree for debugging purpose



Corresponding 5−taxon tree
U = [399, 301, 295, 1, 1, 1, 1, 0, 0, 0, 1, 0, 0, 0, 0]
5 − taxon tree

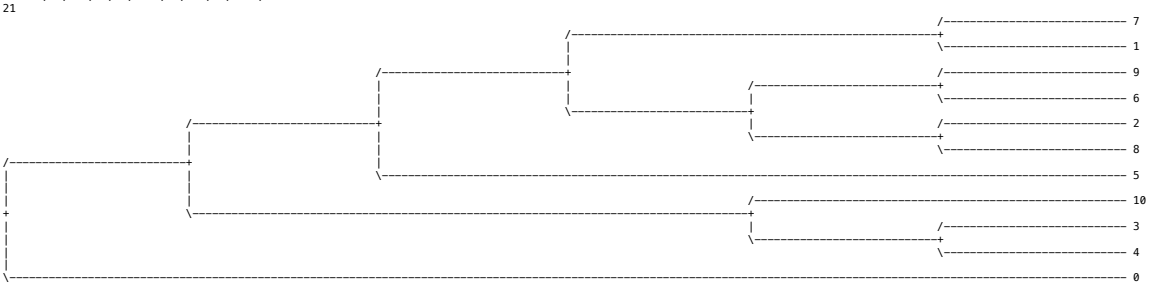


Newick of the above 5 − taxon tree

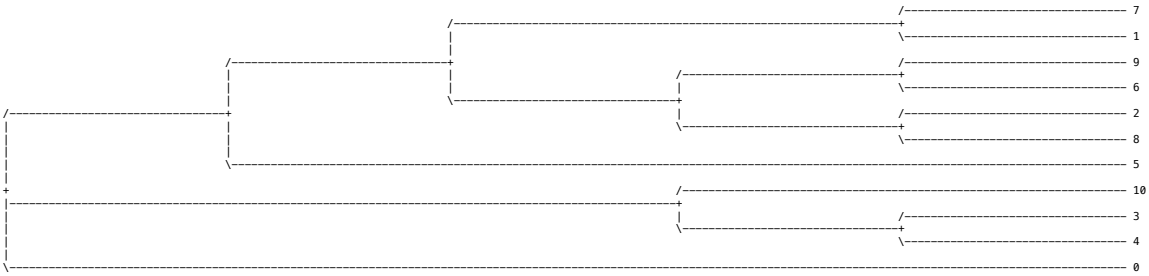
('5/0',(((((7/2','8/0')0)0)0)0),('3/1')1)0,'0/6')

Analysis:−
1)best score on the dataset − 0
2) # edges that have the best score − 7
writted to file

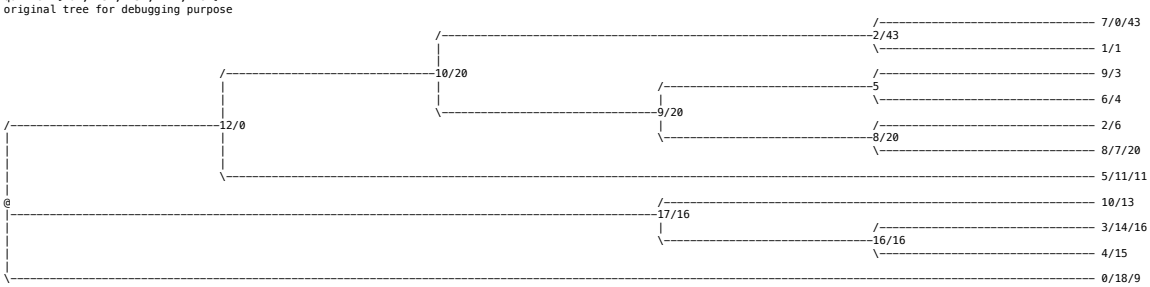
********** Model Condition −model.10.1800000.0.000000111/ Replicate 2/ **********
before derooting
(((((7,1),((9,6),(2,8))),5),(10,(3,4))),0)
21



Now the tree is derooted
Derooted tree
((((7,1),((9,6),(2,8))),5),(10,(3,4)),0)
20



quintet ['0', '3', '5', '7', '8']
original tree for debugging purpose



Corresponding 5−taxon tree
U = [534, 80, 71, 115, 16, 32, 0, 1, 20, 2, 0, 25, 104, 0, 0]
5 − taxon tree

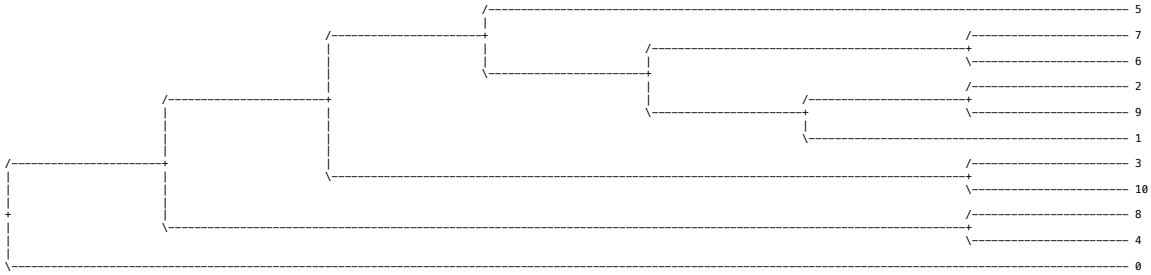
Newick of the above 5 − taxon tree

((((('7/43')43,(('8/20')20)20)20,'5/11')0,(('3/16')16,'0/9')

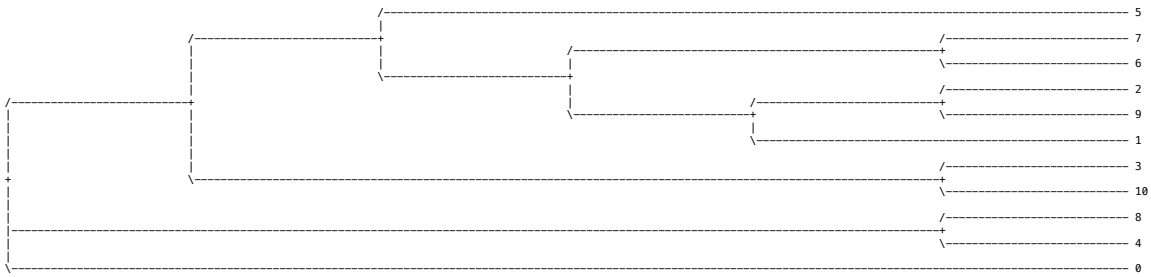
Analysis:−
1)best score on the dataset − 0

 2) # edges that have the best score - 1
writted to file

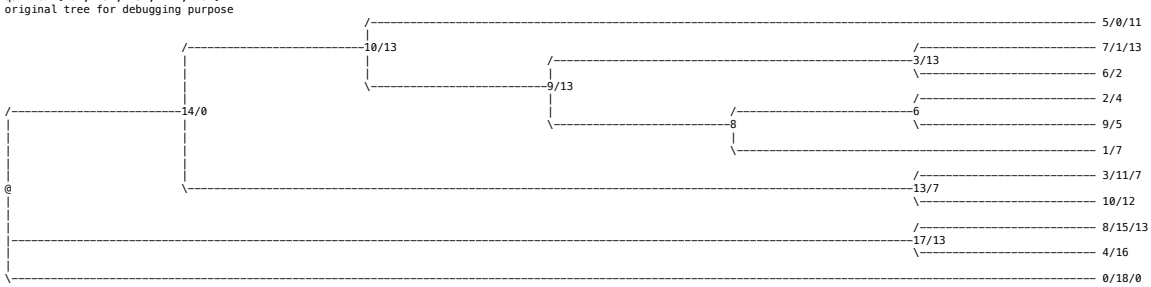
 ********** Model Condition -model.10.1800000.0.000000111/ Replicate 3/ **********
before derooting
((((5,((7,6),((2,9),1))),(3,10)),(8,4)),0)
21



 Now the tree is derooted
 Derooted tree
(((5,((7,6),((2,9),1))),(3,10)),(8,4),0)
20



quintet ['0', '3', '5', '7', '8']
original tree for debugging purpose



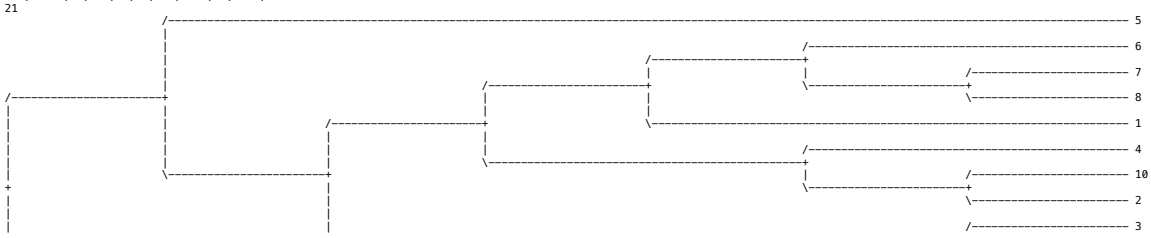
 Corresponding 5-taxon tree
U = [592, 161, 172, 17, 6, 8, 2, 0, 14, 1, 0, 13, 13, 0, 1]
 5 - taxon tree

 Newick of the above 5 - taxon tree

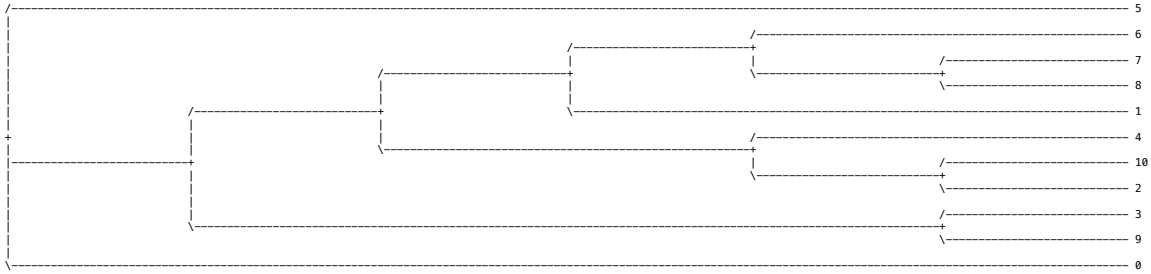
(((('5/11',(('7/13')13)13)13,('3/7')7)0,('8/13')13,'0/0')

 Analysis:-
 1)best score on the dataset - 0
 2) # edges that have the best score - 2
writted to file

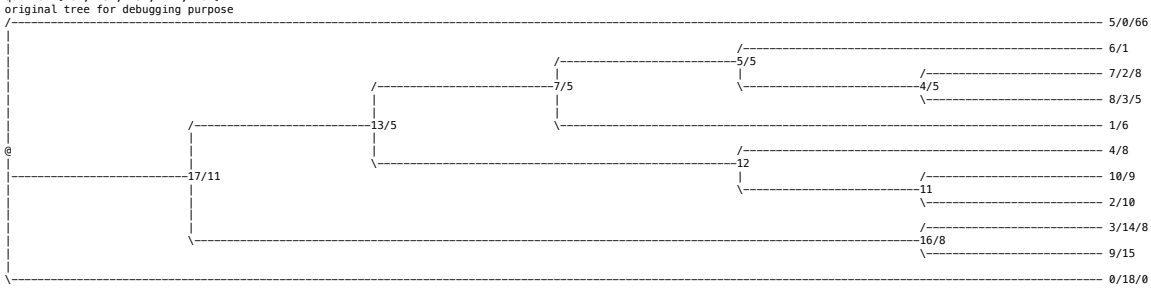
 ********** Model Condition -model.10.600000.0.000000333/ Replicate 1/ **********
before derooting
((5,((((6,(7,8)),1),(4,(10,2))),(3,9))),0)
21



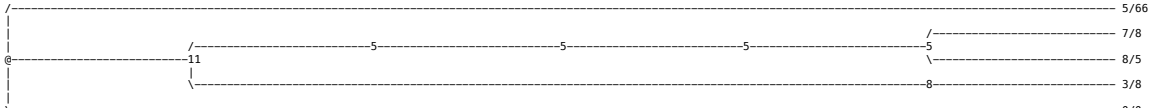
Now the tree is derooted
Derooted tree
(5,((((6,(7,8)),1),(4,(10,2))),(3,9)),0)
20



quintet ['0', '3', '5', '7', '8']
original tree for debugging purpose



Corresponding 5-taxon tree
U = [285, 244, 281, 19, 12, 30, 11, 11, 34, 10, 12, 15, 13, 10, 13]
5 – taxon tree

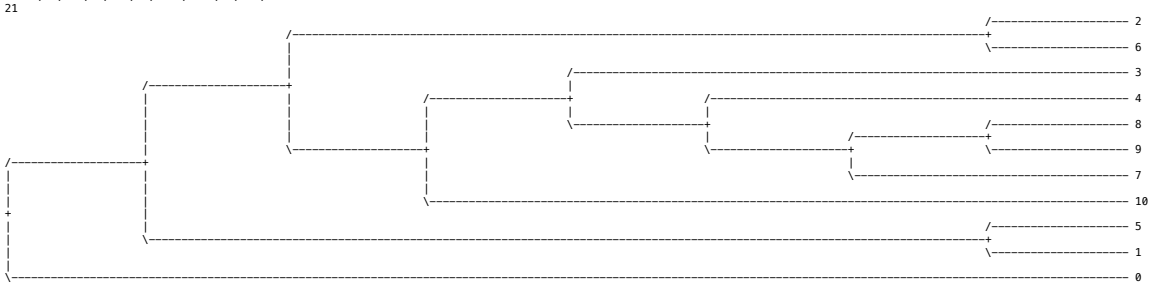


Newick of the above 5 – taxon tree

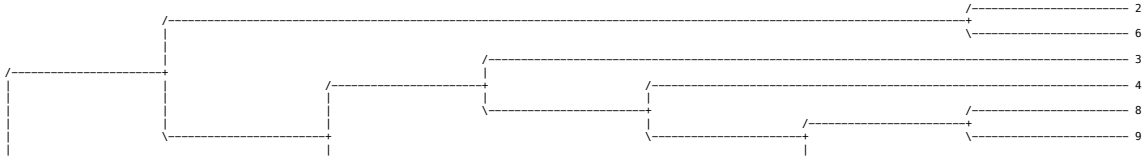
('5/66',(((((‘7/8','8/5')5)5)5)5,('3/8')8)11,'0/0')

Analysis:-
1)best score on the dataset - 0
2) # edges that have the best score - 1
writted to file

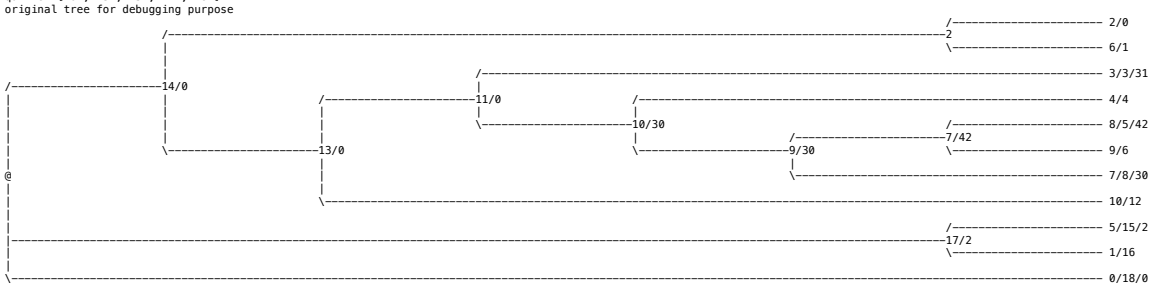
********** Model Condition -model.10.600000.0.000000333/ Replicate 2/ **********
before derooting
((((2,6),((3,(4,((8,9),7))),10)),(5,1)),0)
21



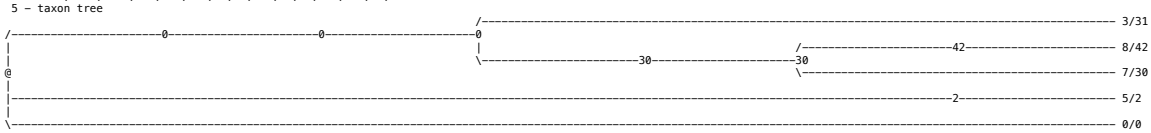
Now the tree is derooted
Derooted tree
(((2,6),((3,(4,((8,9),7))),10)),(5,1),0)
20



quintet ['0', '3', '5', '7', '8']
original tree for debugging purpose



Corresponding 5-taxon tree
U = [410, 107, 109, 99, 44, 44, 3, 3, 32, 7, 3, 36, 99, 2, 2]
5 - taxon tree

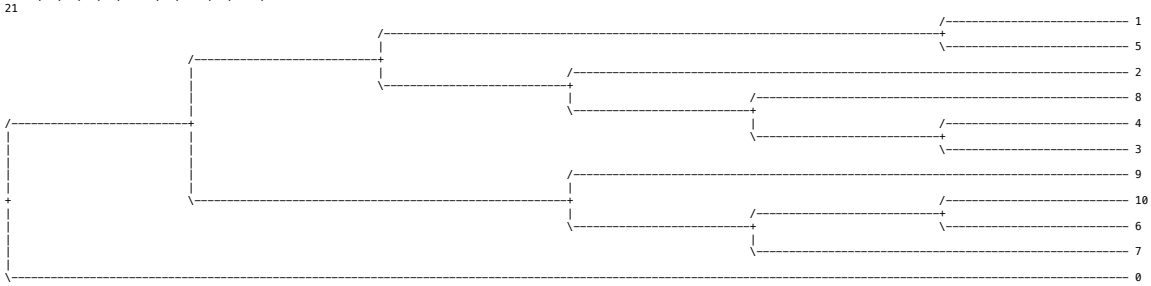


Newick of the above 5 - taxon tree

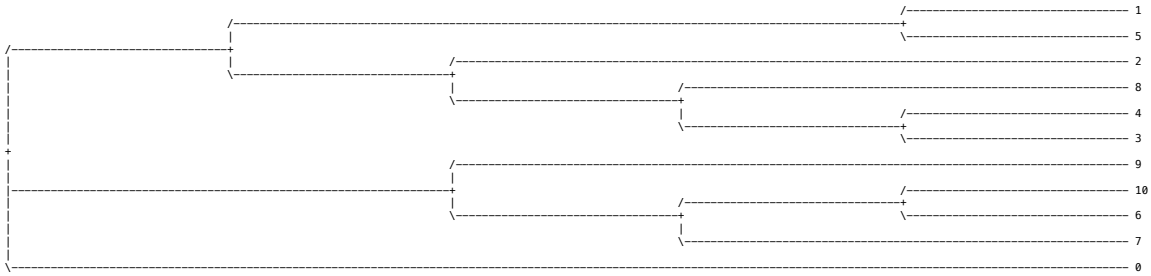
((((('3/31',(((('8/42')42,'7/30')30)30)0)0)0),('5/2')2,'0/0')

Analysis:-
1)best score on the dataset - 0
2) # edges that have the best score - 4
writted to file

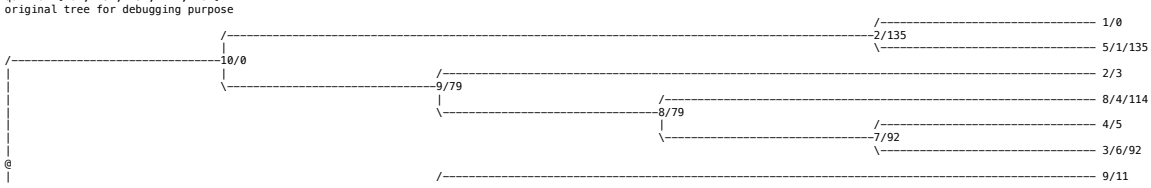
********** Model Condition -model.10.600000.0.000000333/ Replicate 3/ **********
before derooting
((((1,5),(2,(8,(4,3)))),(9,((10,6),7))),0)
21



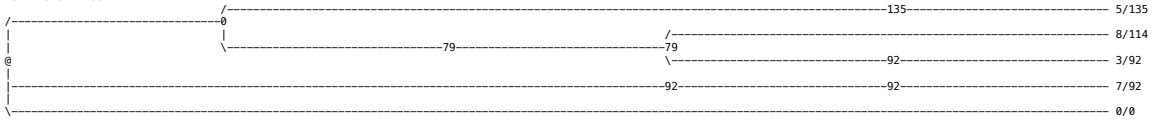
Now the tree is derooted
Derooted tree
(((1,5),(2,(8,(4,3)))),(9,((10,6),7)),0)
20



quintet ['0', '3', '5', '7', '8']
original tree for debugging purpose



Corresponding 5-taxon tree
U = [112, 93, 117, 82, 71, 108, 32, 28, 106, 19, 32, 69, 62, 37, 32]
5 - taxon tree

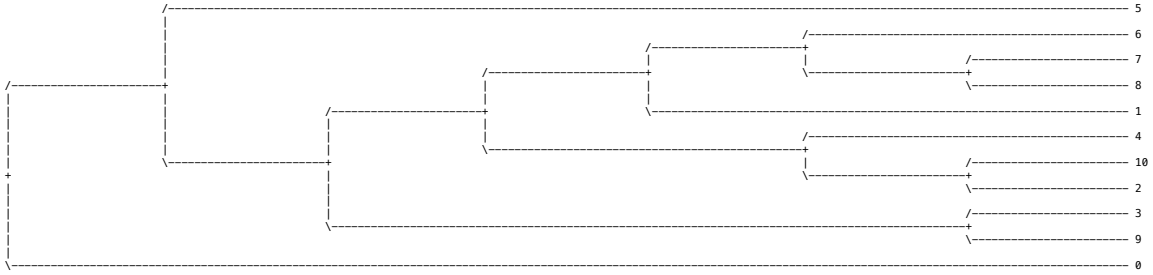


Newick of the above 5 - taxon tree

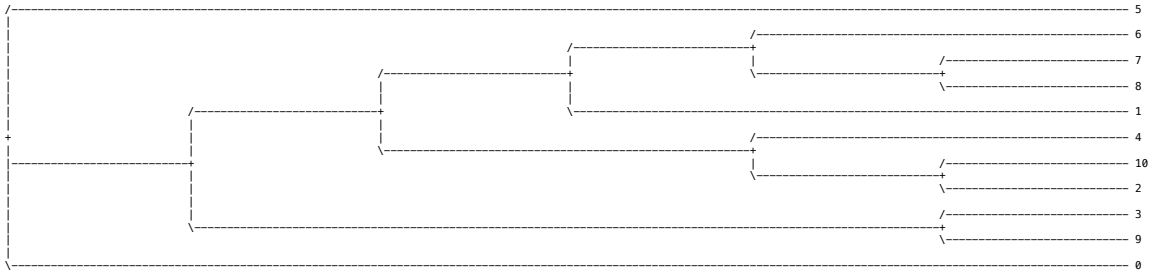
```
(((('5/135')135,(('8/114',('3/92')92)79)79)0,(('7/92')92)92,'0/0')
```

Analysis:-
1)best score on the dataset - 0
2) # edges that have the best score - 2
writted to file

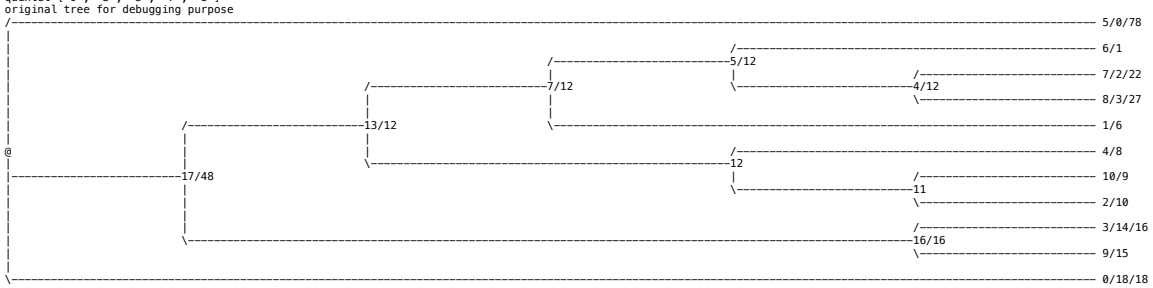
********** Model Condition -model.10.200000.0.000001000/ Replicate 1/ **********
before derooting
((5,((((6,(7,8)),1),(4,(10,2))),(3,9))),0)
21



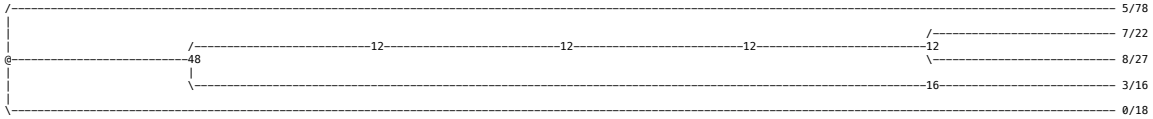
Now the tree is derooted
Derooted tree
(5,((((6,(7,8)),1),(4,(10,2))),(3,9)),0)
20



quintet ['0', '3', '5', '7', '8']
original tree for debugging purpose



Corresponding 5-taxon tree
U = [170, 179, 194, 29, 38, 53, 25, 35, 69, 38, 32, 35, 37, 32, 34]
5 - taxon tree

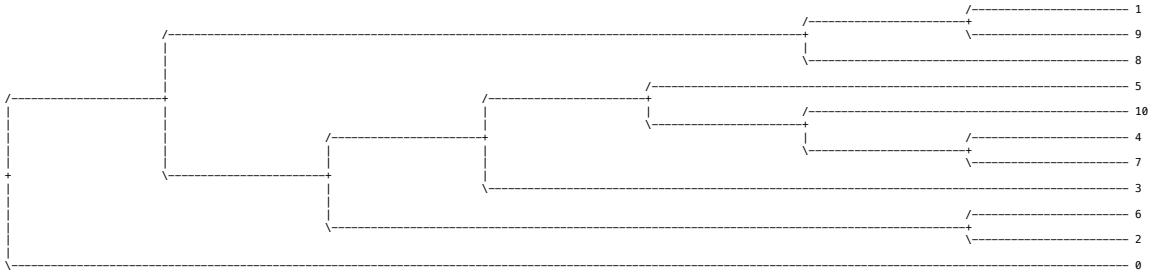


Newick of the above 5 - taxon tree

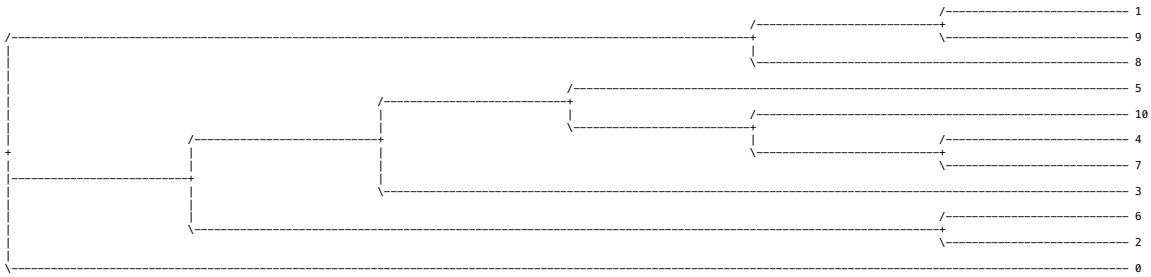
('5/78',(((((('7/22','8/27')12)12)12)12,('3/16')16)48,'0/18')

 Analysis:-
 1)best score on the dataset - 12
 2) # edges that have the best score - 4
writted to file

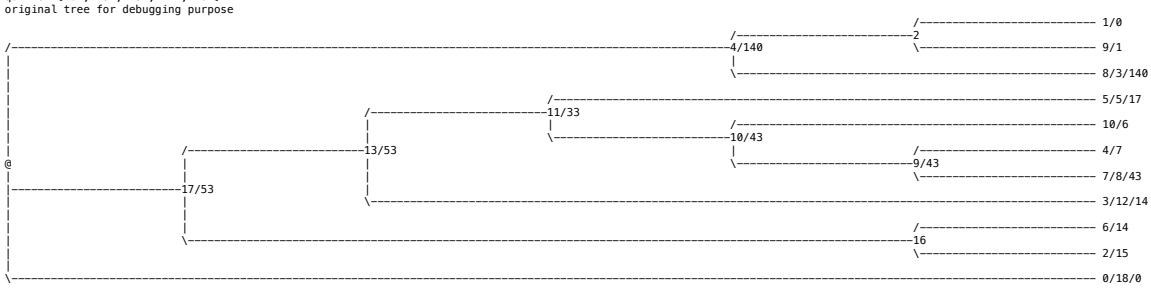
 ********** Model Condition -model.10.200000.0.000001000/ Replicate 2/ **********
before derooting
((((1,9),8),(((5,(10,(4,7))),3),(6,2))),0)
21



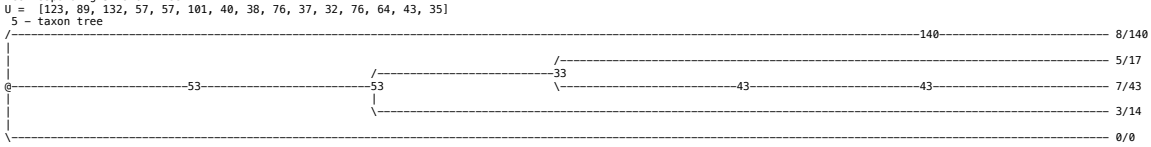
 Now the tree is derooted
 Derooted tree
(((1,9),8),(((5,(10,(4,7))),3),(6,2)),0)
20



quintet ['0', '3', '5', '7', '8']
original tree for debugging purpose



 Corresponding 5-taxon tree
U = [123, 89, 132, 57, 57, 101, 40, 38, 76, 37, 32, 76, 64, 43, 35]
 5 - taxon tree

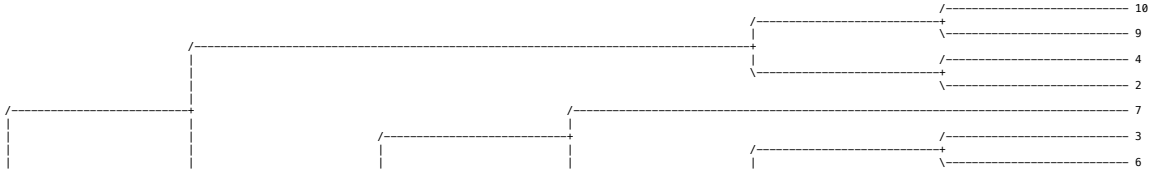


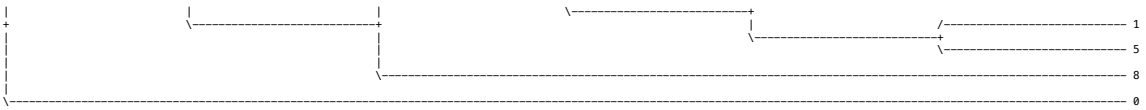
 Newick of the above 5 - taxon tree

(('8/140')140,((('5/17',(('7/43')43)43)33,'3/14')53)53,'0/0')

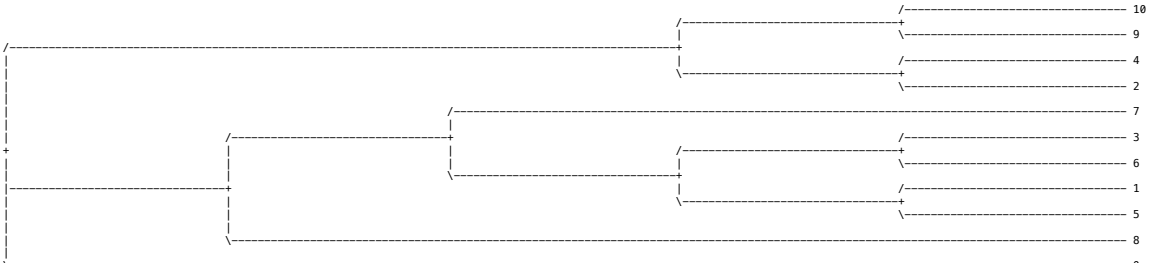
 Analysis:-
 1)best score on the dataset - 0
 2) # edges that have the best score - 1
writted to file

 ********** Model Condition -model.10.200000.0.000001000/ Replicate 3/ **********
before derooting
((((10,9),(4,2)),((7,((3,6),(1,5))),8)),0)
21

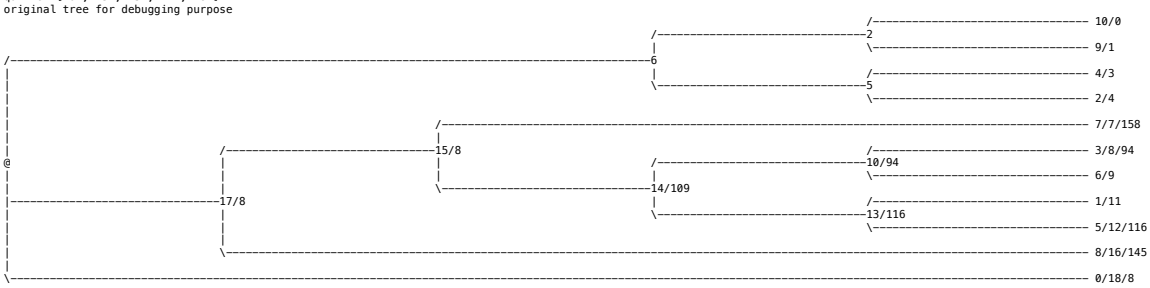




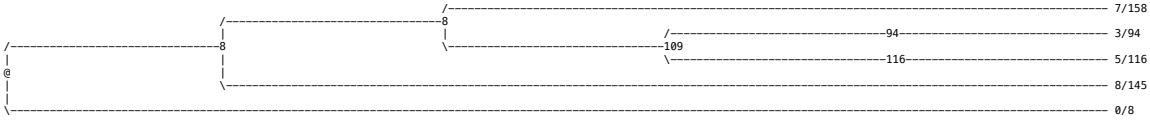
Now the tree is derooted
Derooted tree
(((10,9),(4,2)),((7,((3,6),(1,5))),8),0)
20



quintet ['0', '3', '5', '7', '8']
original tree for debugging purpose



Corresponding 5−taxon tree
U = [80, 88, 123, 64, 61, 96, 51, 36, 111, 55, 38, 48, 71, 33, 45]
5 − taxon tree



Newick of the above 5 − taxon tree

((('7/158',(('3/94')94,('5/116')116)109)8,'8/145')8,'0/8')

Analysis:−
1)best score on the dataset − 8
2) # edges that have the best score − 3
writted to file