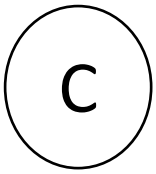
COMP9311: ASSIGNMENT – 3

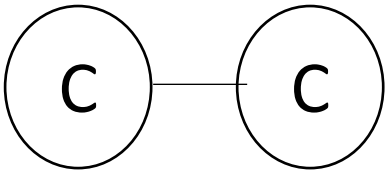
QUESTION 1:

1.



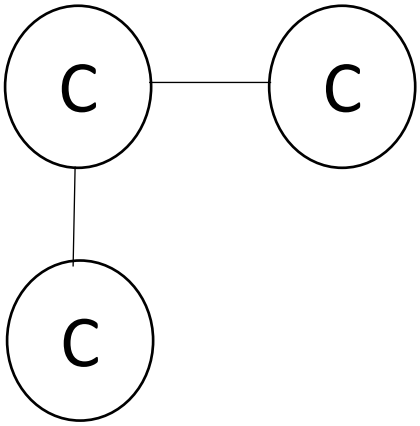
Freq=5

2.



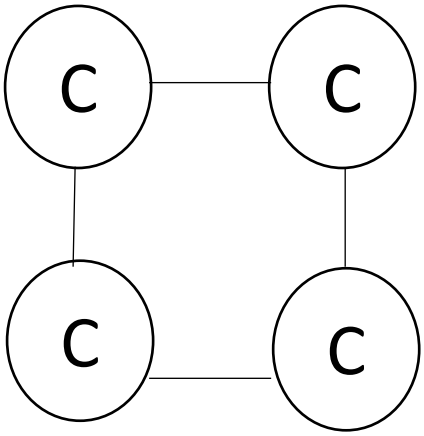
Freq=5

3.



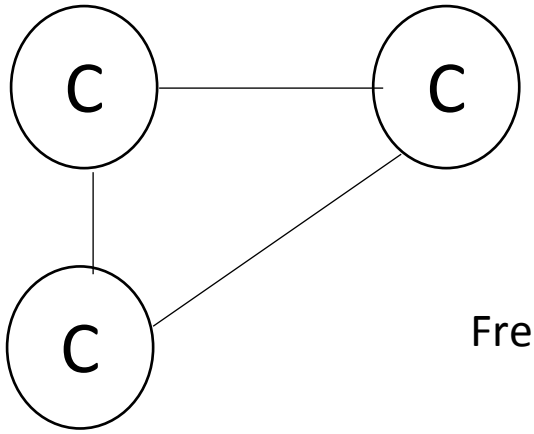
Freq=5

4.



Freq =4

5.



Freq >=3

QUESTION 2 :

1) Neighbourhood Equivalence Class Tree of Query q:

For vertex A_{uo}: freq(G,A) = 1 Degree(u_0)=3

Rank(u_0) = 1/3

Rank(u_1) = 2/4

Rank(u_2) = 1/4

Rank(u_3) = 2/2

Rank(u_4) = 2/2

Rank(u_5) = 1/2

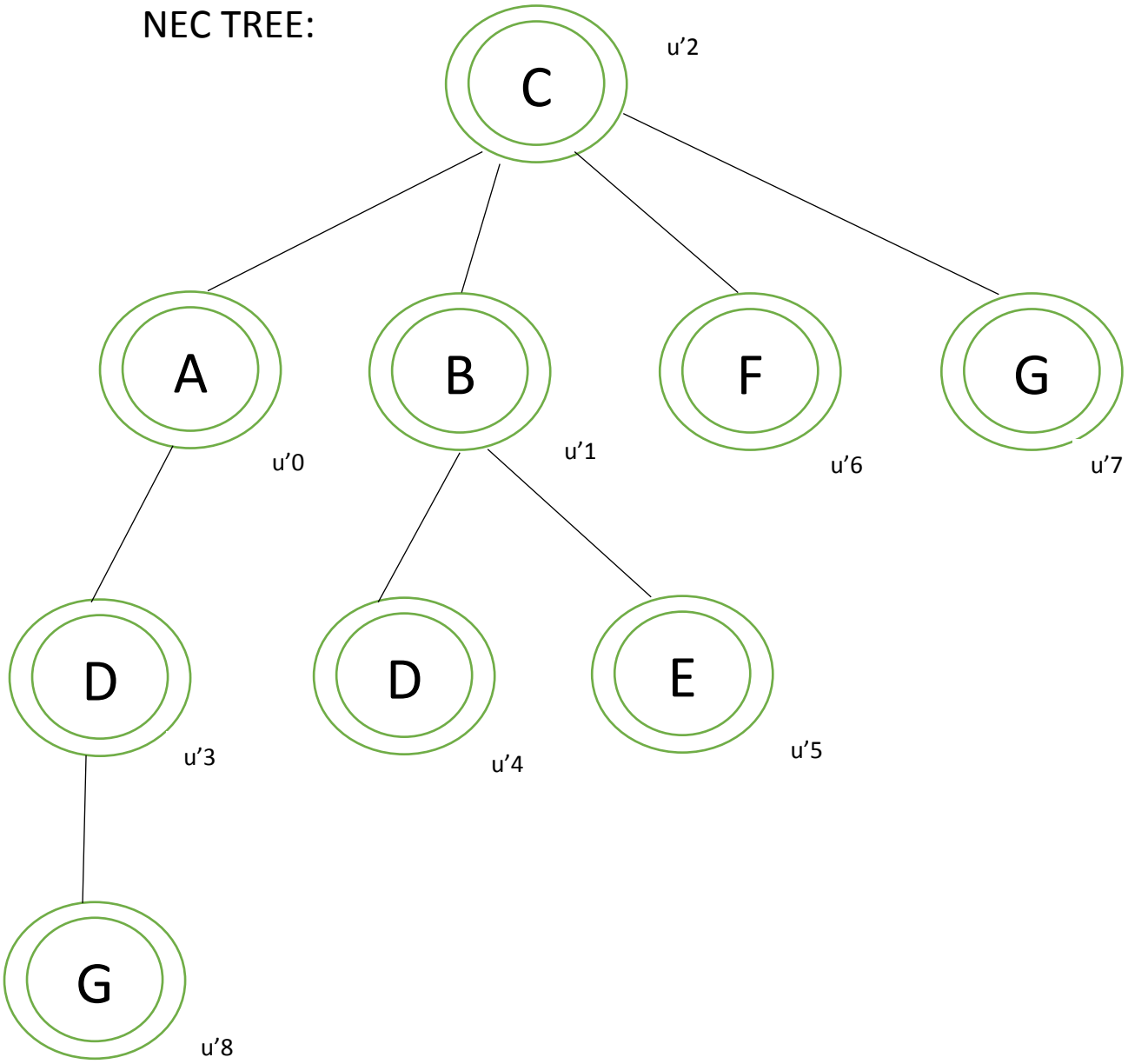
Rank(u_6) = 2/1

Rank(u_7) = 3/1

Rank(u_8) = 3/1

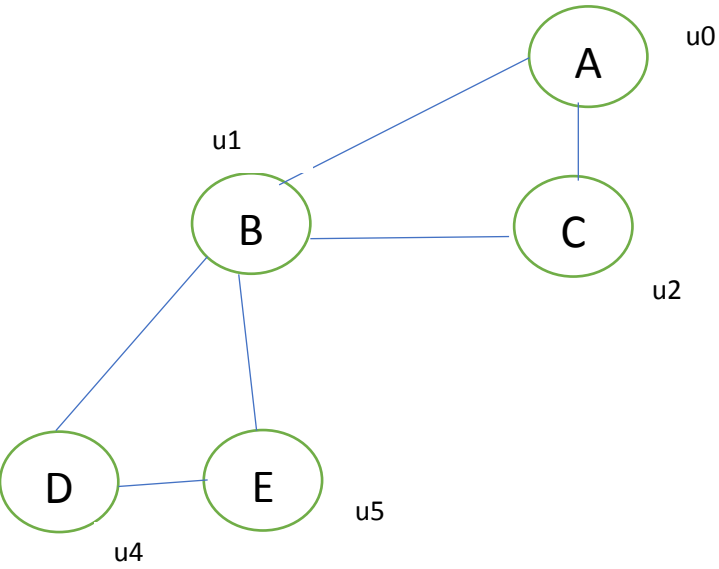
Since Rank of u_2 is the lowest. We choose that as a node to NEC tree.

NEC TREE:

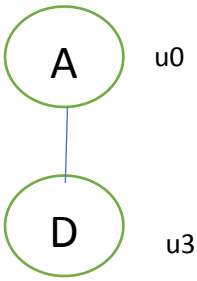


2)Decomposing the vertex set of query According to Corey-Forest-Leaf Decomposition

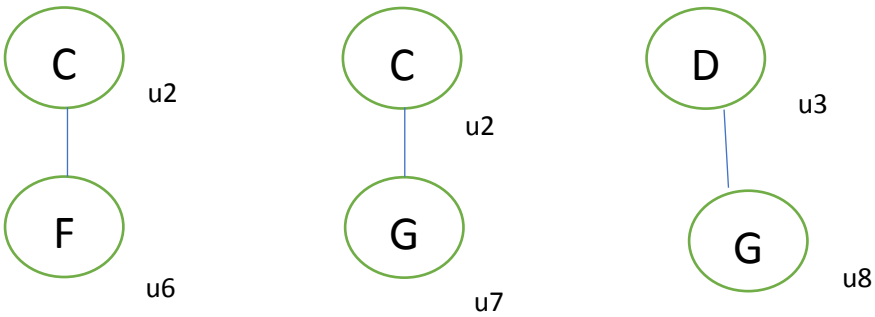
Core Set:{u_0,u_1,u_2,u_4,u_5}



Forest Set:{u_3}



Leaf Set:{u_6,u_7,u_8}



QUESTION 3

V_3 can generate largest influence speeds.

$W(V_1)= 0.0012$

$W(V_2)=0.2$

$W(V_3)=0.02$

$W(V_4)=0.006$

$W(V_5)=0.012$

$W(V_6)=0.04$

$W(V_7)=0.006$

$W(V_8)=0.001$

$W(V_9)=0.01$

	$\sum w(V_i)$
$W(V_1)=1$	1.59792
$W(V_2)=1$	1.7810
$W(V_3)=1$	2.834
$W(V_4)=1$	1.77904
$W(V_5)=1$	1.39126
$W(V_6)=1$	1.6042
$W(V_7)=1$	1.6948
$W(V_8)=1$	1.35968
$W(V_9)=1$	1.8984

ACTIVATED V_3 WHICH CAN BE GENERATE THE LARGEST INFLUENCE SPREADS.