Math553-hw4

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1 Assignment 4

1.1 Problem 1

Since G is a forest with 7 trees, we know that it doesn't have cycle inside.So, $C(G) = 0$.

Also, we have already know that $\dim(cut\ space) + \dim(cycle\ space) = |E|$ and $\dim(cycle\ space) = 0$. So what we get is $\dim(cut\ space) = |E(G)|$.

$$|E(G)| = |E(T_1)| + |E(T_2)| + |E(T_3)| + \cdots + |E(T_7)|$$

$$= V(T_1) - 1 + V(T_2) - 1 + V(T_3) - 1 + +V(T_7) - 1$$

$$= V(G) - 7$$

$$= 2$$