

Exercise 1

The last sentence of the proof of Theorem 1.6 states “It is easily checked that $\kappa(G) = \delta$.” Check this.

.....

Exercise 2 (1.2)

Show that if G is cubic (3-regular) then $\kappa(G) = \lambda(G)$.

.....

Exercise 3 (1.4)

Prove that if $d(u) + d(v) \geq p - 1$ for every pair of non-adjacent vertices then $\lambda(G) = \delta(G)$. Show that the result is best possible (i.e. $p - 1$ cannot be replaced by $p - 2$).

.....

Exercise 4 (1.14)

Suppose the distance between any two $A - B$ paths is at most 1. Does there exist a vertex which is within distance 2 of every $A - B$ path?

.....

Exercise 5 (1.19)

Let G be a minimally 2-connected graph and let x and y be non-adjacent vertices of G . Show that G has a 3-vertex-coloring giving x and y the same color and a 3-vertex-coloring giving x and y different colors.

.....
