

Integer flows and cycle covers of graphs

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ERRATA

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On page 40, Proof of Lemma 2.8.4 Interchange the second and the third paragraphs: prove “3-edge-connectivity” first before dealing with digons (by avoiding bridge created after edge-deletion).

On page 40, Lemmas 2.8.6 and 2.8.7, Add “($k \geq 3$)” after “positive integer.”

On page 43, line -2, “ x_{2i-1} ” should be “ x_{2i+1} ”.

On page 43, line -1, “ x_{2i-1} ” should be “ x_{2i} ”.

On page 47, Exercise 2.18, “(Part of Lemma 2.8.8)” should be “(Do not use Lemma 2.8.8 in the proof)”

On page 69, line 14 “3.7.3” should be “3.7.4”

On page 75, line 22 “3.7.4” should be “3.7.5”

On page 110, line 6 Replace “ G' is a minor of G ” with “ G' is a planar graph with $|V(G')| + |E(G')| \leq |V(G)| + |E(G)|$ ”.

Correction in the proof of 6-flow theorem:

on page 116, line 10. Insert “Choose paths P_1 and P_2 with $|E(P_1) \cup E(P_2)|$ as small as possible.” after the period (before “Then”).

on page 116, line 11. Insert “(by Exercise 5.16),” before “and”.

ADD Exercise 5.16 as follows:

Let x and y be two vertices of a 2-edge-connected graph G . If H is a connected cycle of G containing both x and y , then H must contain a necklace joining x and y .

Proof of Exercise 5.16. Induction of $|E(H)|$. It is obviously true if $|E(H)| \leq 2$. Assume that it is true for $|E(H)| < N$ for some N . Prove the claim for $|E(H)| = N$. If the graph H contains a cut-vertex v separating H into two parts H_1 and H_2 . By inductive hypothesis, each H_i contains a necklace J_i joining v and one of $\{x, y\}$. The union of J_1 and J_2 is a necklace joining x and y . So the subgraph H contains a pair of internally disjoint paths P_1 and P_2 . The union of these two path forms a necklace joining x and y . **END of proof.**

On page 220, line 13, “ $K_{4t+2} \in \mathcal{R}_t \setminus \mathcal{R}_{t+1}$ ” should be “ $K_{4t+2} \in \mathcal{R}_t \setminus \mathcal{R}_{t+1}$ ”.

On page 221, line 8 (in Definition 9.3.4), Correction: “... in an orientable surface S .”

On page 225, line 8, “The function $f = g + f'$ satisfies the assertion of (3).” should be “The function $f = g + f''$ satisfies the assertion of (3).”

P 290. Definition A.3.1 replace “ $X \subset V(G)$ ” with “ $X \subseteq V(G)$ ”, delete “and $0 < |X| < |V(G)|$ ”.

On page 291, at the end of Corollary A.3.3, Add: “if $G - T$ consists of two components of odd orders” after “ $|P \cap T| = 1$ ” Note that the corollary (without the change mentioned above) is true if r is odd. When r is even, this extra condition is necessary. This change will not affect its application in the proof of Theorem A.3.2 on page 292.

On page 298, Theorem A.5.4, Line 2 “ G be k -edge-connected graph and... ..”

On page 306, Hint for Exercise 2.18, Replace the hint with the following sentence. “Use Theorem 2.4.2, and Exercise 2.21”

Please send suggestion and comments to C. Q. Zhang

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