MTH310/520: Submission 11

Time: 15 Minutes, Marks: 5

April 26, 2024

Name and Roll No:

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1. (5 points) Prove or disprove: If G is a 2-connected simple plane graph with minimum degree 3, then the dual graph of G is simple.

Solution. Disprove. We can draw a 2-connected simple plane graph with one face contributing to the outer boundary, that would imply a graph with parallel edges.

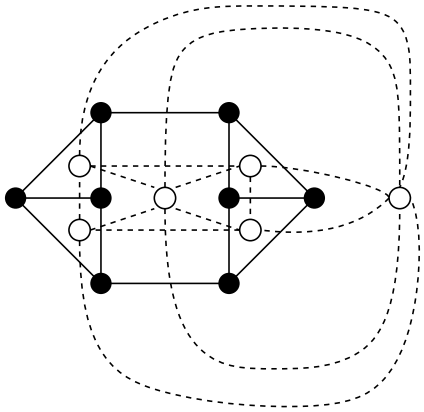

Figure 1: Counterexample showing that dual graph is not simple