This paper is a study of color assignment to the vertices of an arbitrary planar graph. The graph is partitioned into tiers of edges and layers of cycles, which is the crucial preparatory work for the coloring algorithms. If the number of vertices in a tier would be even, and no odd parity polygons were present, a coloring strategy of two of the four alternating colors would be sufficient. These two generic causes may occur in a graph as potential conflicts that would require additional analysis to locate and resolve unavoidable conflicts. The provided algorithms demonstrate that four colors are sufficient for the graph. The correctness of the algorithms is proved in a traditional manner; no computer assistance is needed.

**Keywords:** cycle basis, cyclic number, flat set, tier, layer, decomposition indicator & tree, color availability, unavoidable conflict, two top tiers coloring, “2+1” coloring principle, non 3-colorable one layer graph, generic cause conflict resolution algorithms.

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**References**


