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An extension of Thomassen's results on 2- and 3-extendable planar graphs. Preliminary report.

Carsten Thomassen has proven that if G is a plane graph with a path of two vertices precolored on the exterior face F , with otherwise $|L(u)| = 3$ for u on F , and $|L(x)| = 5$ for all other vertices x , then G is L -list-colorable; he calls such a plane graph *2-extendable with respect to a 2-path*. He has also characterized the plane graphs that are *3-extendable with respect to a 3-path*, which have three vertices of a boundary path pre-colored and similarly 3- and 5-lists elsewhere; not all such plane graphs are 3-extendable. We begin the study of *(1,1)-extendable* plane graphs; these are the plane graphs with two nonadjacent precolored vertices on the exterior face and similarly 3- and 5-lists elsewhere. They are not always list-colorable. Let G be an *outerplane graph* with nonadjacent vertices v, w in $V(G)$ having $|L(v)|, |L(w)| \leq 2$ and otherwise $|L(x)| = 3$ for x in $V(G)$. We characterize when G is L -list-colorable and formulate a conjecture on the obstructions for (1,1)-extendability for all planar graphs G . (Received February 12, 2010)