UCL Department of Computer Science
CS M038/GZ06: Mobile and Cloud Computing
2010–2011, Term 2
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One-pager: CLDP (Kim et al., 2005) **Due: Start of lecture, 21st January 2011**

Instructions: **in your own words,** *answer the following question as* **succinctly** *as possible (in 200–500 words, but shorter answers within that range are encouraged). Quoting figures or text from the assigned reading or from any other source is specifically prohibited.*

At the end of Section 3 of the CLDP paper, the authors describe an enhancement to the GG and RNG graph planarization methods called *mutual witness* (MW).

Suppose you have a non-unit network graph G that represents the nodes and links in a wireless network. When you apply the GG or RNG *without* mutual witness to G, the resulting output graph may contain one or both of two pathologies: the graph may be partitioned, and it may remain non-planar (*i.e.*, it may still contain crossing edges). Which of these two pathologies *cannot* occur when the GG or RNG with the mutual witness extension is applied to the same input graph G? Referring to the appropriate details of the mutual witness extension's definition as needed, why can this pathology not occur when the mutual witness extension is used?