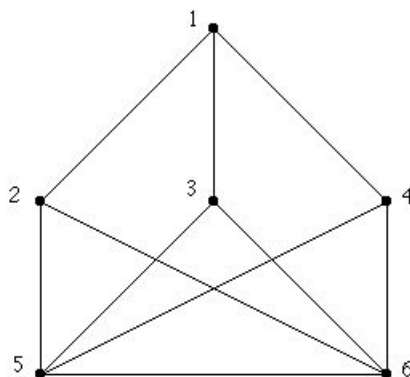
 — Page references correspond to locations of Extra Examples icons in the textbook.

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p.696, icon at Example 8

#1. Determine whether the following graph is planar.



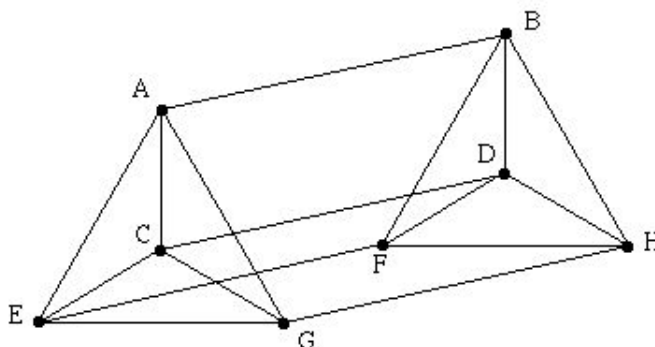
**Solution:**

The graph is not planar. If the edge  $\{5, 6\}$  is removed, the resulting subgraph is isomorphic to  $K_{3,3}$ . (Use  $\{2, 3, 4\}$  and  $\{1, 5, 6\}$  as the partition of the vertices of  $K_{3,3}$ .)

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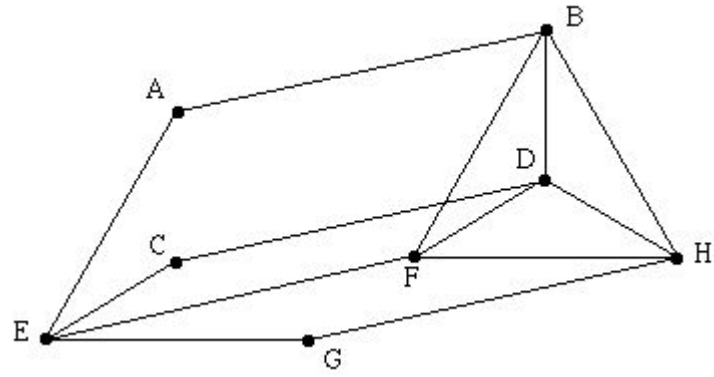
p.696, icon at Example 8

#2. Determine whether the following graph is planar.



**Solution:**

The graph is not planar. It contains a subgraph homeomorphic to  $K_5$ , using vertices  $E, B, D, F, H$ . First remove some edges to obtain the following subgraph:



Then use elementary subdivisions at vertices  $A, C, G$  to obtain the following graph,  $K_5$ :

