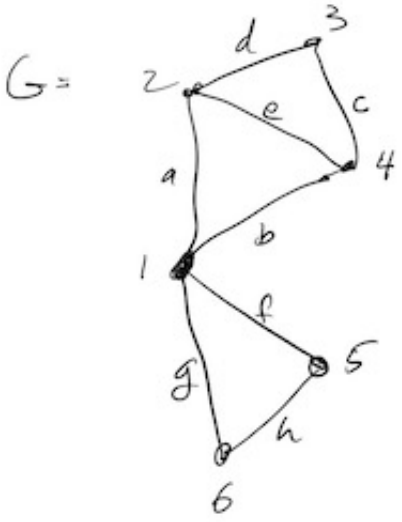
Worksheet for graph theory lecture 13

Given the graph below, draw the following edge induced subgraphs (see lecture 9):

$G[\{a, b, e\}], G[\{a, b, f, g, h\}]$

Also, with the same graph, find subsets $S_1, S_2 \subset E[G]$ such that $G[S_1], G[S_2]$ are the blocks of G.



Problem: Show that if a vertex v lies on a cycle in a graph G, then v cannot be a cut vertex.

Problem: Show that if e is an edge in G, then G is nonseparable if and only if $G[[e]]$ is nonseparable.

Problem: Show that if G is nonseparable, than any two edges lie on a common cycle (use the subdivision strategy of the video).