

## MATHEMATICS MAGAZINE PROBLEM

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ABSTRACT. Characterize those simple graphs  $G$  with the following two properties: between each pair of vertices  $u$  and  $v$  in  $G$  we have that (1) there exist a pair of vertex-disjoint paths, and (2) any set of vertex-disjoint paths between  $u$  and  $v$  has at most two elements. (Note:  $\{P_1, \dots, P_n\}$  is a set of *vertex-disjoint paths* between  $u$  and  $v$  if they are paths from  $u$  to  $v$  and if no two of them share a vertex except for  $u, v$ ).

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