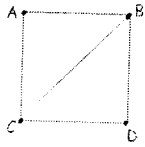


NOTES--Graph Theory Hamilton Paths and Circuits

A "simple" path/circuit does not contain the same edge more than once.  
 The "length" of a path/circuit is the number of edges traveled.



DBCA simple path length = 3  
 ABCA simple circuit length = 3  
 DCBACB path (not simple) length = 5  
 ADDBA not valid

A Hamilton path is a path that uses each vertex exactly once.

A Hamilton circuit is when a Hamilton path ends at the starting vertex.



cool fact--If a graph has a pendant vertex, no Hamilton circuit exists!!!



Example

Find a Hamilton circuit or Hamilton path, if one exists.

A. Hamilton circuit  
BCDEFAB

B. Hamilton path  
EBACD

C. Hamilton path  
ABCD

D. Hamilton circuit  
DECBAD

E. Hamilton path  
~~ABCDE~~  
ABCDE

F. Hamilton circuit  
HABIGDCEFA  
ABDGIHFECA

~~ENEDAB~~

G. neither

~~NOENRGTBO~~