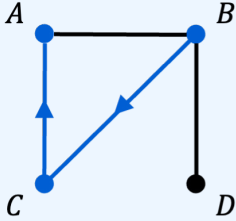
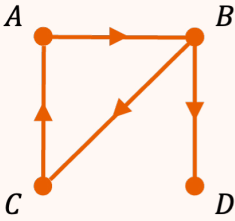
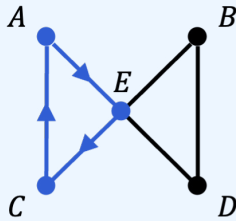
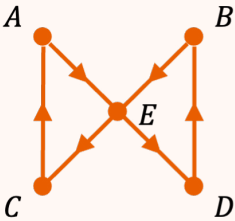


TOPIC: EULER PATHS & EULER CIRCUITS

Euler Paths & Euler Circuits

◆ An **Euler** (pronounced "oy-ler") **path** is a path which travels along _____ edge in the graph *exactly* _____.

► An **Euler circuit** is a *closed* Euler path which starts & ends at the *same* vertex.

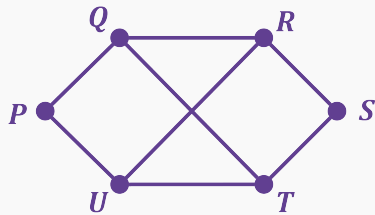
	Recall	General	New	Euler
Path		 Path: B, C, A Edges: BC, CA		 Path: $B, C, A, \dots$ Edges: $BC, CA, \dots$
Circuit		 Path: E, C, A, E Edges: EC, CA, AE		 Path: $E, C, A, E \dots$ Edges: $EC, CA, AE, \dots$

TOPIC: EULER PATHS & EULER CIRCUITS

PRACTICE

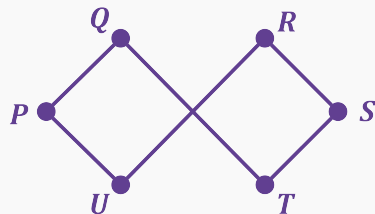
Using each graph below, determine if each sequence of vertices describes an Euler path (E.P.), an Euler Circuit (E.C.), or neither.

(A)



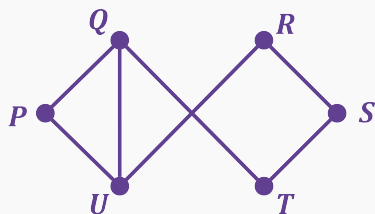
P, Q, R, S, T, U, P
[E. P. | E. C. | NEITHER]

(B)



P, Q, T, S, R, U, P
[E. P. | E. C. | NEITHER]

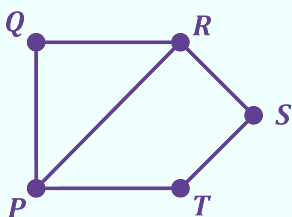
(C)



Q, U, P, Q, T, S, R, U
[E. P. | E. C. | NEITHER]

EXAMPLE

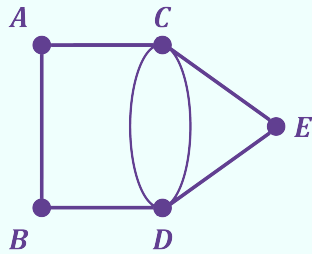
Find an Euler path from P to R using trial & error.



TOPIC: EULER PATHS & EULER CIRCUITS

EXAMPLE

Find an Euler circuit starting & ending at vertex A using trial & error.



EXAMPLE

The graph below represents train routes between major European cities. Find a path from Paris to Rome that uses every train route (Euler path).

