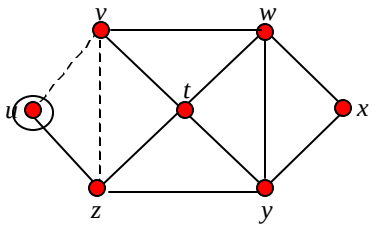
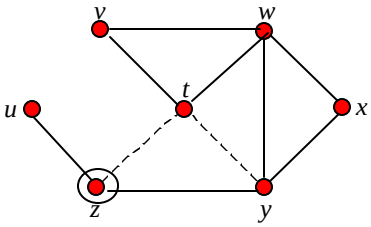
Tutorial Sheet 16
(Answers)

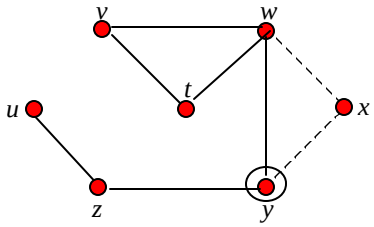
1.

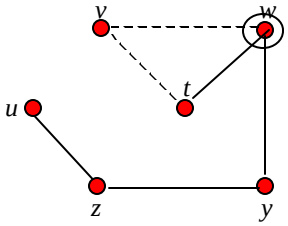
	Eulerian	Hamiltonian
(a)	No	Yes
(b)	No	Yes
(c)	Yes	Yes
(d)	No	Yes

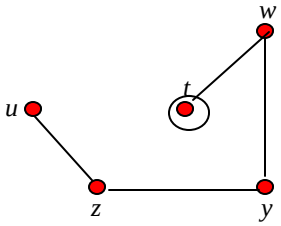
2.









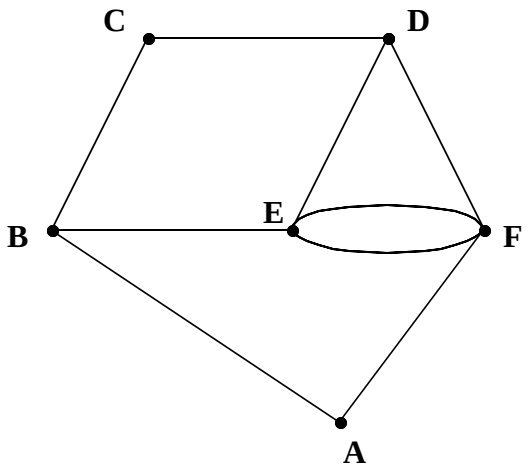


Therefore, the Eulerian path is uvztyxwvtwyzu.

3. (a) The condition of Dirac' s theorem does not hold for the Hamiltonian graph (a).
The condition of Ore' s theorem does not hold for the Hamiltonian graph (a).

(b) The condition of Dirac' s theorem does not hold for the Hamiltonian graph (b).
The condition of Ore' s theorem hold for the Hamiltonian graph (b).

1. Use vertices for rooms and edges for doorways to draw the following graph.



It is not an Eulerian graph since **B** and **D** have odd degree. Thus it is impossible to walk through each doorway exactly once starting and ending at **A**.