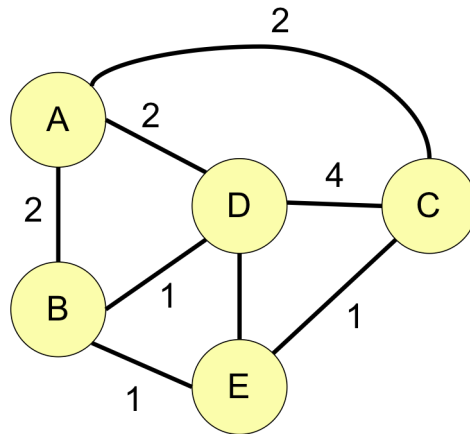


Exercise 1: Routing generalities

1. Give some routing protocols in the Internet and indicate whether it is a vector-distance or a link-state protocol.
2. Why do you think that exterior routing protocols usually use a distance-vector approach ?

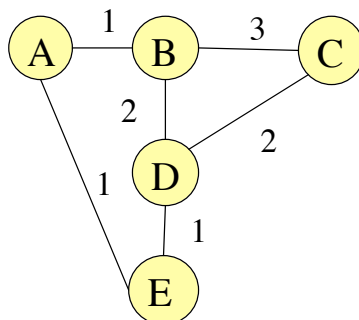
Exercise 2: vector distance routing

In the following configuration, give **the 2nd distance-vector message sent** by router C, if we suppose that the order of sending distance-vector message are routers E,D,C,B,A.

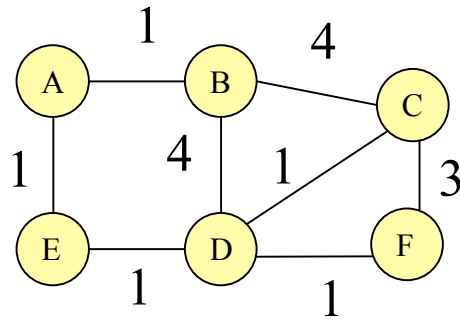


A	B	C	D	E
			←	(a,b,c,d,e)

Same exercise on the following topology : give the 2nd message sent by E (order of routers is A, B, C, D and E)



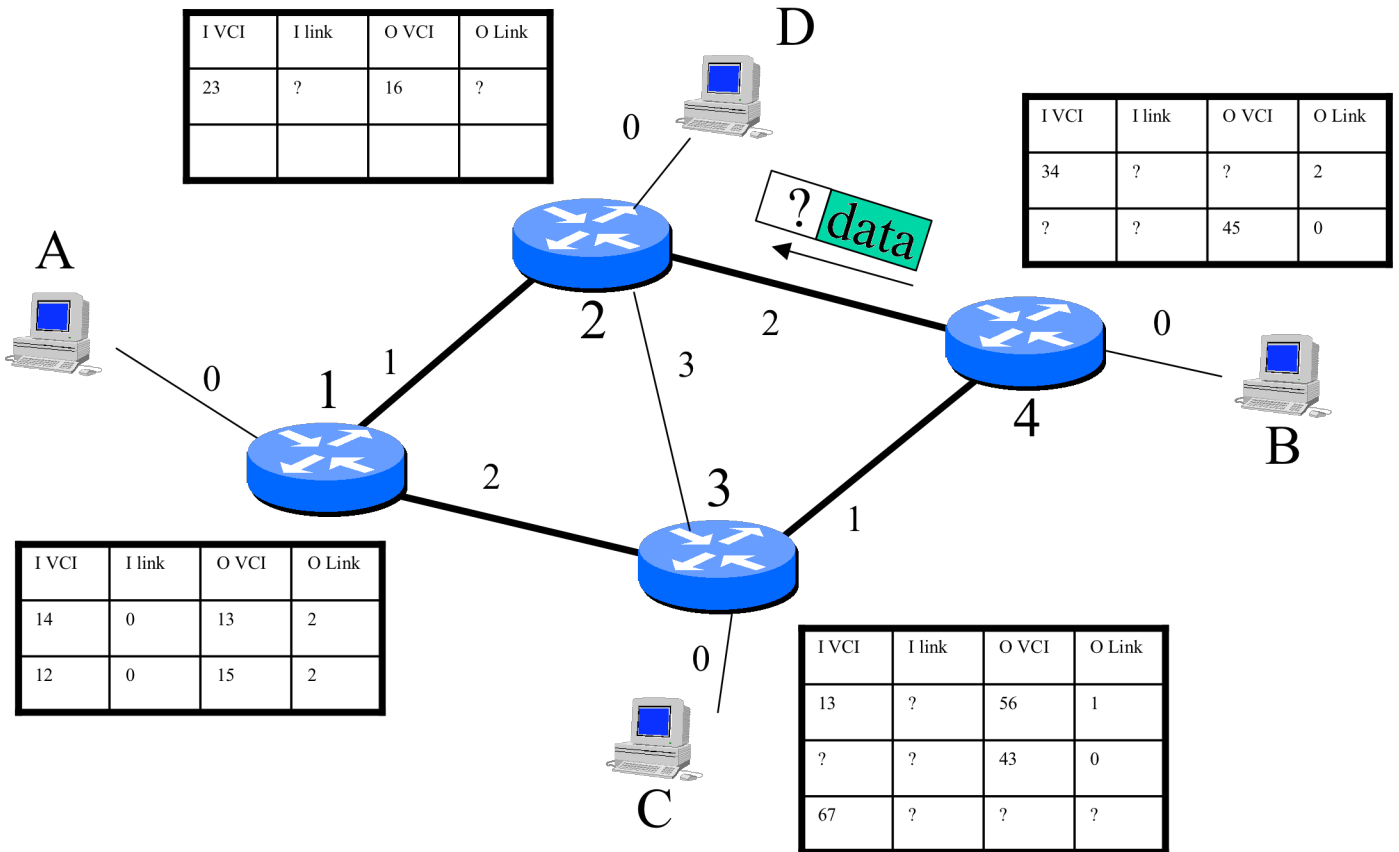
The link cost is represented on the figure. Assuming that the network is rooted at router A, fill in the table to indicate all the steps of a link-state routing algorithm such as OSPF. At each step, indicate the elected node and the cost to each destination. Show at the end the spanning tree built from router A.



SET N	D(B), P(B)	D(C),P(C)	D(D), P(D)	D(E), P(E)	D(F), P(F)
A					

Exercise 3: Virtual circuit in WAN

In the following figure, there are some X.25 virtual circuits already set-up between A and B, A and C and C and D. Fill in the cases marked by an « ? ». Link number are indicated on the figure and there are 4 routers, from 1 to 4.



Explain the pro & cons of a virtual circuit approach.