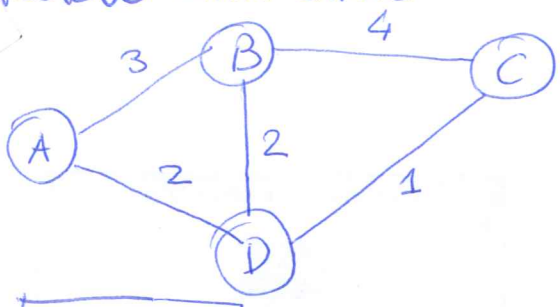
ESERCIZIO LINK STATE



HELLO 5 sec

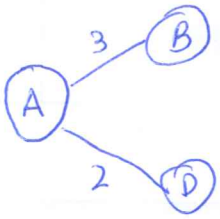
AVVIO $t = 0$ s

$\tau = 2$ ms

$T_e = 1$ ms

~~T_t~~ trascurabile

$t = 5{,}003$ s



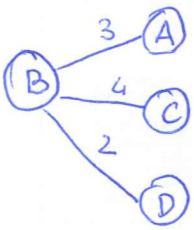
LSDB(A)

(A, B, 3)

(A, D, 2)

LSP

FROM	SEQ	XCHE	
A	1		LSDB(A)



LSDB(B)

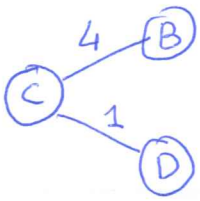
(B, A, 3)

(B, C, 4)

(B, D, 2)

LSP

B	1		LSDB(B)



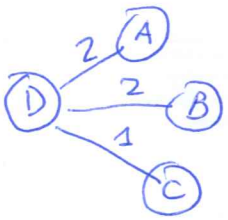
LSDB(C)

(C, B, 4)

(C, D, 1)

LSP

C	1		LSDB(C)



LSDB(D)

(D, A, 2)

(D, B, 2)

(D, C, 1)

LSP

D	1		LSDB(D)

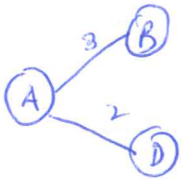
Data la rete in figura eseguire un protocollo Link State per ottenere le tabelle di Routing dei nodi. Si consideri un Hello packet con timer 5 sec. Si assuma che la rete possa essere ancora, tutti i nodi avviano le proprie operazioni a $t = 0$ s, un τ di 2 ms e un T_e di 1 ms.
Si evidenzi il funzionamento del protocollo mostrando lo scambio di messaggi LSU tra i nodi della rete. Mostrare l'esecuzione dell'algoritmo di instradamento da parte del protocollo.

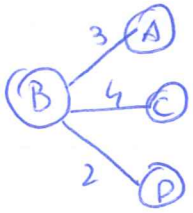
A $t = 5{,}006$ s

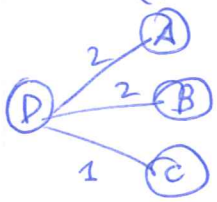
A riceverà da B e da D il loro LSP con le info dell LSDB

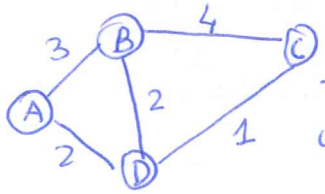
(A, B, 3) (B, A, 3) ~~(D, A, 2)~~
(A, D, 2) (B, C, 4) ~~(D, B, 2)~~
(B, D, 2) (D, C, 1)

$\Rightarrow$ (A, B, 3) (A, D, 2) (B, C, 4) (B, D, 2) (D, C, 1)









topologia completa

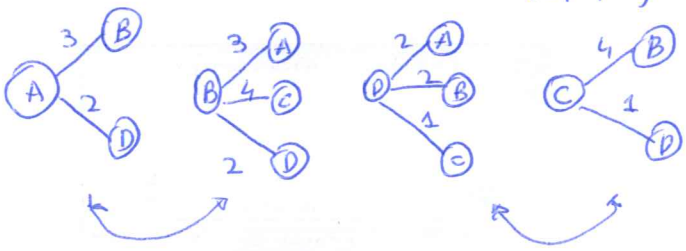
$t = 5{,}006$ s in flooding A invierà LSP verso B e verso D

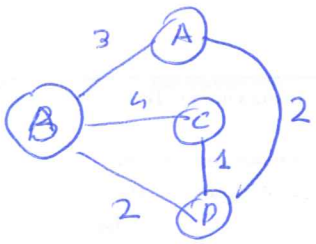
che saranno ricevuti al tempo

$t = 5{,}009$ s

B $t = 5{,}006$ s riceverà da A, C, D

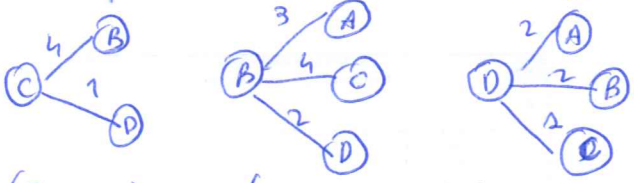
(B, A, 3) (A, B, 3) (C, B, 4) (D, A, 2) $\Rightarrow$
(B, C, 4) (A, D, 2) (C, D, 1) (B, B, 2)
(B, D, 2) (D, C, 1)



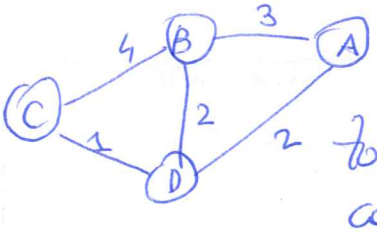


topologia completa

C $t = 5{,}006$ s riceverà da B, D



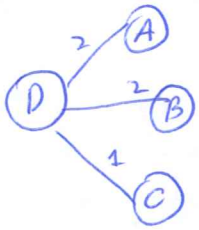
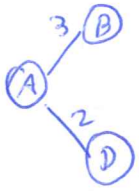
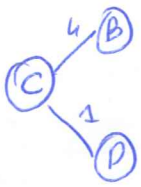
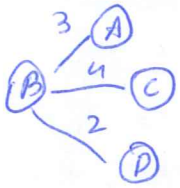
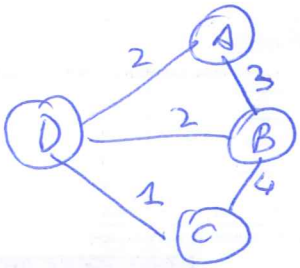
(C, B, 4) (B, A, 3) (D, A, 2)
(C, D, 1) (B, C, 4) (D, B, 2)
(B, D, 2) (D, C, 1)



topologia completa

- D $t = 5{,}006$ riceverà da A, B, C

(D, A, 2) (A, B, 3) (C, B, 4) (B, A, 3)
(D, B, 2) (A, D, 2) (C, D, 1) (B, C, 4)
(D, C, 1) (B, D, 2)

topologia completa

	A	B	C	D
A	—	3/A	∞	2/A
AD	—	3/A	3/D	—
ADB	—	—	3/D	—
ADBC	—	—	—	—

MST

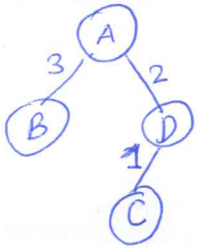
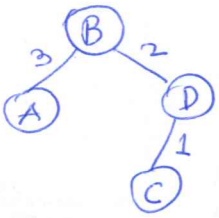


TABELA ROUTING

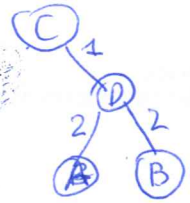
TO	NEXT	COST
B	B	3
D	D	2
C	D	3

	A	B	C	D
B	3/B	—	4/B	2/B
BD	3/B	—	3/D	—
BDA	—	—	3/D	—
BDAC	—	—	—	—



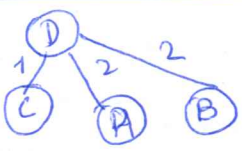
TO	NEXT	COST
A	A	3
D	D	2
C	D	3

	A	B	C	D
C	4/C	4/C	—	1/D
CD	3/D	3/D	—	—
CDA	—	3/D	—	—
CDAB	—	—	—	—



TO	NEXT	COST
D	D	1
A	D	3
B	D	3

	A	B	C	D
D	2/D	2/D	1/D	—
DC	2/D	2/D	—	—
DCA	—	2/D	—	—
DCAB	—	—	—	—



TO	NEXT	COST
C	C	1
A	A	2
B	B	2