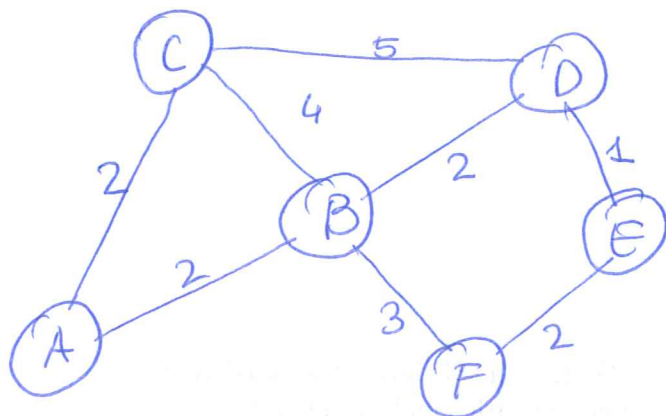


ESERCIZIO 1 - ESONERO DEL 20/12/2019



$$H_{\text{HELLO}} = 100$$

$$T_e = 2 \text{ ms}$$

$$\tau = 4 \text{ ms}$$

$$R = 0,1 \text{ Mbps}$$

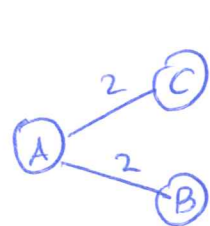
$$L_{\text{SU packet}} = 100 \text{ B}$$

$$T_x = \frac{(120 + 100) \cdot 8}{100 \cdot 1000} = 0,01328$$

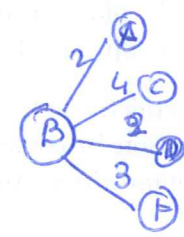
$$\text{delay} = T_e + \tau + T_x =$$

$$= 2 + 4 + 13,28 = 19,28 \text{ ms}$$

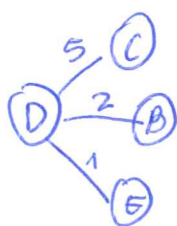
$$t = 10,01928$$



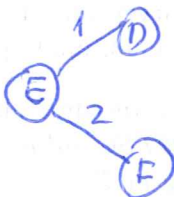
(A,C,2)
(A,B,2)



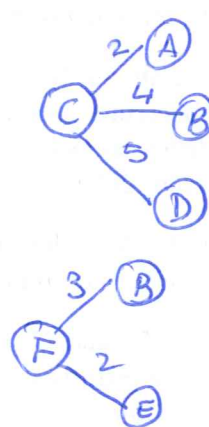
(B,A,2)
(B,C,4)
(B,D,2)
(B,F,3)



(D,C,5)
(D,B,2)
(D,E,1)

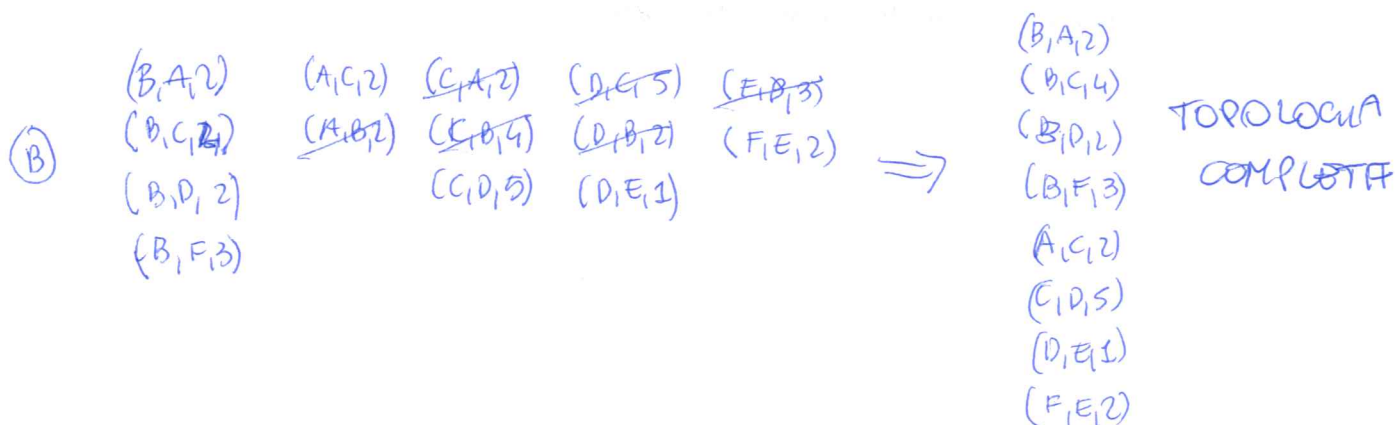
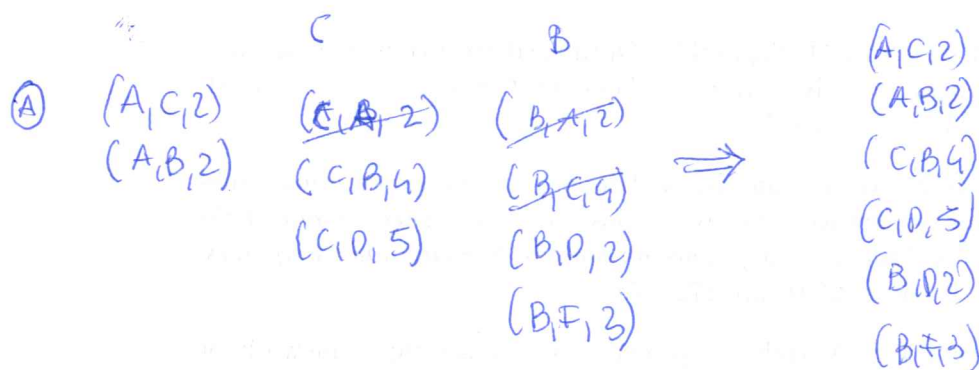


(E,D,1)
(E,F,2)



(C,A,2)
(C,B,4)
(C,D,5)
(F,B,3)
(F,E,2)

$$t = 10,03856$$



$$\begin{array}{ccccccc}
 \textcircled{C} & (C,A,2) & (\cancel{A,C,2}) & (\cancel{B,A,2}) & (\cancel{D,C,5}) & \Rightarrow & (C,A,2) \\
 & (C,B,4) & (A,B,2) & (\cancel{B,C,4}) & (\cancel{D,B,2}) & & (C,B,4) \\
 & (C,D,5) & & (B,D,2) & (D,E,1) & & (C,D,5) \\
 & & & (B,F,3) & & & (A,B,2) \\
 & & & & & & (B,D,2) \\
 & & & & & & (B,F,3) \\
 & & & & & & (D,E,1)
 \end{array}$$

(2)

$$\begin{array}{ccccccc}
 \textcircled{D} & (D,C,5) & (C,A,2) & (B,A,2) & (\cancel{E,D,1}) & \Rightarrow & (D,C,5) \\
 & (D,B,2) & (C,B,4) & (\cancel{B,C,4}) & (E,F,2) & & (D,B,2) \\
 & (D,E,4) & (\cancel{C,D,5}) & (\cancel{B,D,2}) & & & (D,E,4) \\
 & & & (B,F,3) & & & (C,A,2) \\
 & & & & & & (C,B,4) \\
 & & & & & & (B,A,2) \\
 & & & & & & (B,F,3) \\
 & & & & & & (E,F,2)
 \end{array}$$

comp.

$$\begin{array}{ccccccc}
 \textcircled{E} & (E,D,4) & (D,C,5) & (F,B,3) & \Rightarrow & (E,D,4) \\
 & (E,F,2) & (D,B,2) & (\cancel{E,E,2}) & & (E,F,2) \\
 & & (\cancel{D,D,1}) & & & (D,C,5) \\
 & & & & & (D,B,2) \\
 & & & & & (E,B,3)
 \end{array}$$

$$\begin{array}{ccccccc}
 \textcircled{F} & (F,B,3) & (B,A,2) & (E,D,1) & \Rightarrow & (F,B,3) \\
 & (F,E,2) & (B,C,4) & (\cancel{E,F,2}) & & (F,E,2) \\
 & & (B,D,2) & & & (B,A,2) \\
 & & (\cancel{B,F,3}) & & & (B,C,4) \\
 & & & & & (B,D,2) \\
 & & & & & (E,D,1)
 \end{array}$$

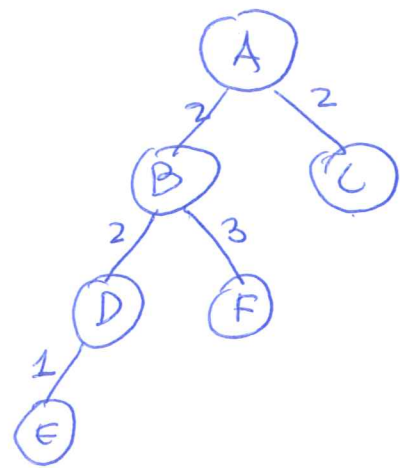
A, C, E, F non conoscono ancora la topologia completa

A, C, F sono diretti vicini di B che conosce la topologia completa
per cui al prossimo step conosceranno la topologia completa

E è diretto vicino di D che conosce la topologia completa
per cui al prossimo step la conoscerà

Quindi al tempo $t = 10,05784$ A conosce la topologia completa

	A	B	C	D	E	F
A	/	(2/A)	2/A	∞	∞	∞
AB	/	/	(2/A)	4/B	∞	5/B
ABC	/	/	/	(4/B)	∞	5/B
ABCD	/	/	/	/	(5/D)	5/B
ABCDE	/	/	/	/	/	(5/B)
ABCDEF	/	/	/	/	/	/

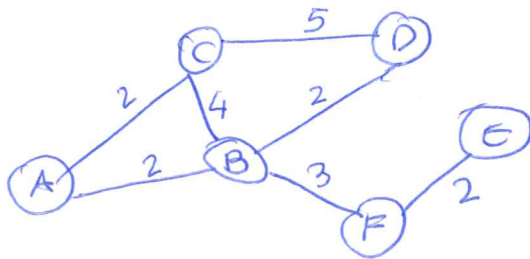


(3)

TO	NEXT	COST
B	B	2
C	C	2
D	B	4
E	B	5
F	B	5

al tempo $T = 29$, c'è un link tra D ed E

(4)



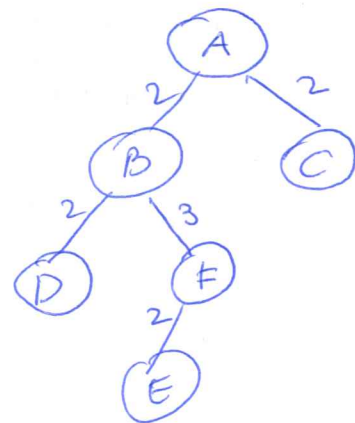
al tempo $t = 50,01928$

D ed E mantengono un LSU verso i vicini

al tempo $t = 50,03856$ C, B, E conosceranno la nuova topologia

al tempo $t = 50,05784$ anche A conoscerà la nuova topologia

	A	B	C	D	E	F
A	—	(2/A)	2/A	∞	∞	∞
AB	—	—	(2/A)	4/B	∞	5/B
ABC	—	—	—	(4/B)	5/B	5/B
ABCD	—	—	—	—	∞	(5/B)
ABCDE	—	—	—	—	—	(7/F)
ABCDEF	—	—	—	—	—	—



TO	NEXT	COST
B	B	2
C	C	2
D	B	4
F	B	5
E	B	7