CprE 489
Homework 5

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1a)

Iteration	N	$H_{BA};D_{BA}$	$H_{BC};D_{BC}$	$H_{BD};D_{BD}$	$H_{BE};D_{BE}$	$H_{BF};D_{BF}$
Initial	{B}	A;5	C;2	D;∞	E;∞	F;1
1	{B, A}	A;5	C;2	A;7	E;∞	F;1
2	{B, A, C}	C;4	C;2	C;3	E;∞	F;1
3	{B, A, C, D}	C;4	C;2	C;3	C;5	F;1
4	{B, A, C, D, E}	C;4	C;2	C;3	C;5	F;1
5	{B, A, C, D, E, F}	C;4	C;2	C;3	C;5	F;1

1b)

Dest	H_{ij}	D_{ij}	C_{ij}
A	C	4	5
B	B	0	0
C	C	2	2
D	C	3	∞
E	C	5	∞
F	F	1	1

2a)

	Iteration	A	B	C	E	F
	Initial	(-, ∞)	(-, ∞)	(-, ∞)	(-, ∞)	(-, ∞)
	1	(D, 2)	(-, ∞)	(D, 1)	(D, 2)	(-, ∞)
	2 (Through A)	(D, 2)	(A,7)	(D, 1)	(D, 2)	(-, ∞)
Destination node D	3 (Through B)	(D, 2)	(C,3)	(D, 1)	(D, 2)	(B, 4)
	4 (Through C)	(D, 2)	(C,3)	(D, 1)	(D, 2)	(B, 4)
	5 (Through E)	(D, 2)	(C,3)	(D, 1)	(D, 2)	(B, 4)
	6 (Through F)	(D, 2)	(C,3)	(D, 1)	(D, 2)	(B, 4)

2b)

(i)

Dest	D_{ij}
C	2
D	2
E	4

A $\rightarrow$ B is not included as that is the destination of the report, and A $\rightarrow$ F is not included as the shortest path is through B.

(ii)

Dest	D_{ij}
A	2
B	2
F	3

C $\rightarrow$ D is not included as that is the destination of the report, and C $\rightarrow$ E is not included as the shortest path is through D.

(iii)

Dest	D_{ij}
A	5
B	1
C	3
D	4

F $\rightarrow$ E is not included as that is the destination of the report.