

14. Shortest path from a to z has length $L(z) = 7$

Step	V(T)	E(T)	F	L(a)	L(b)	L(c)	L(d)	L(e)	L(f)	L(g)	L(z)
0	{a}	\emptyset	{a}	0	∞	∞	∞	∞	∞	∞	∞
1	{a}	\emptyset	{b,e}	0	1	∞	∞	4	∞	∞	∞
2	{a,b}	{{a,b}}	{c,e,f}	0	1	2	∞	4	8	∞	∞
3	{a,b,c}	{{a,b},{b,c}}	{d,e,f,g}	0	1	2	3	4	8	10	∞
4	{a,b,c,d}	{{a,b},{b,c},{c,d}}	{e,f,g,z}	0	1	2	3	4	8	10	23
5	{a,b,c,d,e}	{{a,b},{b,c},{c,d},{a,e}}	{f,g,z}	0	1	2	3	4	5	10	23
6	{a,b,c,d,e,f}	{{a,b},{b,c},{c,d},{a,e},{e,f}}	{g,z}	0	1	2	3	4	5	6	23
7	{a,b,c,d,e,f,g}	{{a,b},{b,c},{c,d},{a,e},{e,f},{f,g}}	{z}	0	1	2	3	4	5	6	7
8	{a,b,c,d,e,f,g,z}	{{a,b},{b,c},{c,d},{a,e},{e,f},{f,g},{g,z}}									

15. Shortest path from a to z (where $a = a$ and $z = f$) has length $L(z) = 5$

Step	V(T)	E(T)	F	L(a)	L(b)	L(c)	L(d)	L(e)	L(g)	L(z)
0	{a}	\emptyset	{a}	0	∞	∞	∞	∞	∞	∞
1	{a}	\emptyset	{b,e,g}	0	3	∞	∞	3	4	∞
2	{a,b,e}	{{a,b},{a,e}}	{c,d,g,z}	0	3	10	14	3	4	7
3	{a,b,e,g}	{{a,b},{a,e},{a,g}}	{c,d,z}	0	3	10	14	3	4	5
4	{a,b,e,g,z}	{{a,b},{a,e},{a,g},{g,z}}								

***algorithm terminates before finding shortest path to c and d