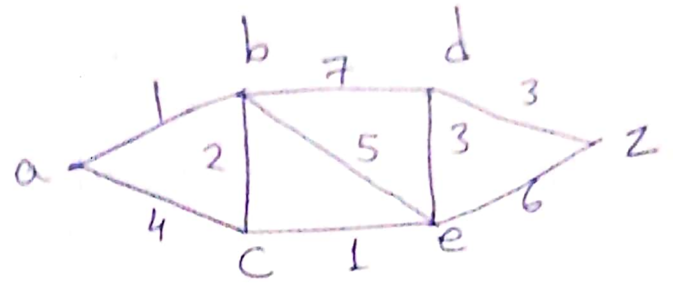

Soln Let $G = (V, E)$, $V = \{a, b, c, d, e, z\}$

step I taking $P_1 = \{a\}$, $T_1 = \{b, c, d, e, z\}$

$l(b) = 1$

$l(c) = 4$

$l(d) = \infty = l(e) = l(z)$

Thus $b \in T_1$ has min index 1

step II taking $P_2 = \{a, b\}$, $T_2 = \{c, d, e, z\}$

$l(c) = \min(\text{old } l(c),\ l(b) + w(b,c))$

$= \min(4,\ 1+2) = 3$

$l(d) = \min[\text{old } l(d),\ l(b) + w(b,d)]$

$= \min[\infty,\ 1+7] = 8$

$l(e) = \min[\text{old } l(e),\ l(b) + w(b,e)]$

$= \min[\infty,\ 1+5] = 6$

$l(z) = \min[\text{old } l(z),\ l(b) + w(b,z)]$

$= \min[\infty,\ 1+\infty] = \infty$

Thus $c \in T_2$ has the min index 3.

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step III taking $P_3 = \{a, b, c\}$, $T_3 = \{d, e, z\}$

$l(d) = \min[\text{old } l(d),\ l(c) + w(c, d)]$

$= \min[8, 3 + \infty] = 8$

$l(e) = \min[\text{old } l(e),\ l(c) + w(e c)]$

$= \min[6, 3 + 1] = 4$

$l(z) = \min[\text{old } l(z),\ l(c) + w(c, z)]$

$= \min[\infty, 3 + \infty] = \infty$

$\because e \in T_3$ has the min index 4

Step IV - Taking $P_4 = \{a, b, c, e\}$, $T_4 = \{d, z\}$

$l(d) = \min[\text{old } l(d),\ l(e) + w(d, e)]$

$= \min[8, 4 + 3] = 7$

$l(z) = \min[\text{old } l(z),\ l(e) + w(e, z)]$

$= \min[\infty, 4 + 6] = 10$

Thus $d \in T_4$ has min index 7

step V - Taking $P_5 = \{a, b, c, e, d\}$, $T_5 = \{z\}$

$l(z) = \min[\text{old } l(z),\ l(d) + w(d, z)]$

$= \min[10, 7 + 3] = 10$

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	a	b	c	d	e	z	
a	0	∞	∞	∞	∞	∞	
{a b}	—	$\boxed{1}$	4	∞	∞	∞	
{a,b,c}	—	—	$\boxed{3}$	8	6	∞	change
{a,b,c,e}	—	—	—	8	$\boxed{4}$	∞	change
{a,b,c,e,d}	—	—	—	$\boxed{7}$	—	10	
{a,b,c,e,d,z}	—	—	—	—	—	10	

a → b → c → e → z

1 + 2 + 1 + 6 = 10

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