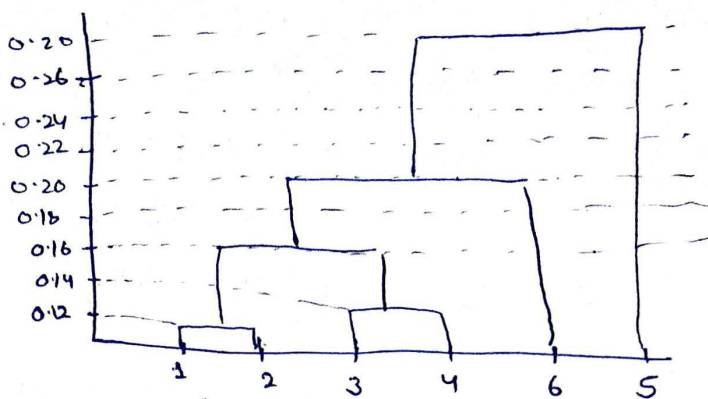
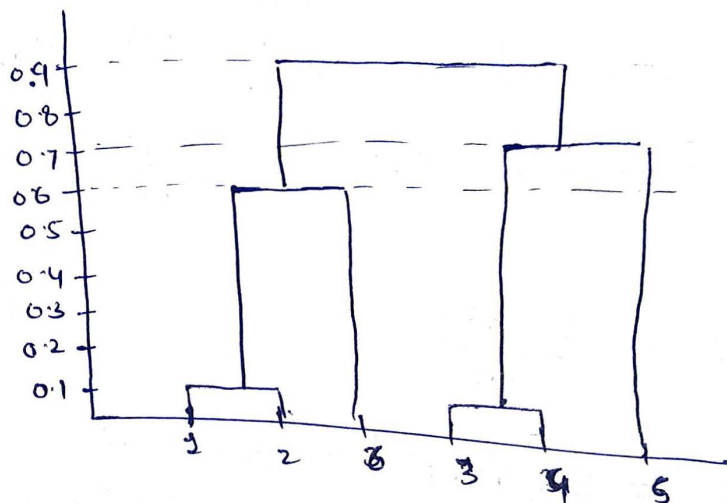


Ans 1 (a)



1 (b)



1(c)

If hierarchical, we want that $x_1 x_2$ & $x_3 x_4$ merge before $x_1 x_2$ & x_6 . $\therefore x_1 x_2$ & $x_3 x_4 < x_1 x_2$ & x_6
i.e. $x_1 x_2$, $x_3 x_4$ is x_5 , $x_1 x_2$ is x_6
should be

$$0.51 \leq x_5 \leq 0.61$$

$$\text{i.e. } x_5 \rightarrow 0.59$$

	$x_1 x_2$	$x_3 x_4$	x_5	x_6	$x_1 x_2 x_3 x_4$
$x_1 x_2$	0				$x_1 x_2 x_3 x_4$ 0
$x_3 x_4$	0.59	0	0		x_5 0.77
x_5	0.17	0.70	0.67	0	x_6 0.97
x_6	0.61	0.93			

x_5, x_6 can't merge but for both to be same we

$x_1 x_2$ & $x_3 x_4$, x_6 to be lower than 0.67 i.e.
 $0.5 < x_3, x_6 < 0.67$
 $\therefore x_3, x_6 \rightarrow 0.61$