Q2 min^m cost assignment of persons of jobs using hungarian method, can be done in following way:

$\min w = \sum_{i=1}^{3} \sum_{j=1}^{4} c_{ij} x_{ij}$, $x_{ij} = \begin{cases} 1 \rightarrow \text{assigned} \\ 0 \rightarrow \text{not assigned} \end{cases}$

→ As person 2 and 3 can do ~~more~~ two jobs we have added extra rows for 2' and 3'.
also, as we need no. of rows = no. of columns for balancing we will add dummy column"5" of 0 values.

	1	2	3	4	5	min^m of row
1	50	46	42	40	0	0
2	51	48	44	*	0	0
3	*	47	45	45	0	0
2'	51	48	44	*	0	0
3'	*	47	45	45	0	0
min^m of column	50	46	42	40	0	

∴ We get on substracting min^m of column from each column element,

		1	2	3	4	5	
	1	0	0	0	0	0	1
	2	1	2	2	*	0	
	3	*	1	3	5	0	
2' →	4	1	2	2	*	0	
3' →	5	*	1	3	5	0	
						2	

as, lines = 2 but matrix (5×5)

∴ now, $min^m = 1$ ∴ adding that at intersection of 1 & 2 and substracting it from all other,

	1	2	3	4	5
1	0	0	0	0	1
2	0	1	1	*	0
3	*	0	2	4	0
4	0	1	1	*	0
5	*	0	2	4	0

lines = 3, matrix (5×5)
∴ next iteration.
(minimum = 1)

	1	2	3	4	5	zeros
1	1	1	0	$\boxed{0}$	2	2
2	$\boxed{0}$	1	0	*	0	~~3~~ 2
3	*	$\boxed{0}$	1	3	0	2
4→2'	0	1	$\boxed{0}$	*	0	~~3~~ ~~2~~ 1
5→3'	*	0	1	3	$\boxed{0}$	~~2~~ 1
zeros	2	2	~~3~~ ~~2~~ 1	1	~~4~~ 3	

now, lines = 5 = matrix size.
∴ optimal table.
now, looking at no. of zeros and allocating for least zero rows and columns, we get,

∴ optimal solution ⇒ $x_{21} = x_{32} = x_{2'3} = x_{3'5} = x_{14} = 1$, other $x_{ij} = 0$

∴ minm cost = (40 × 1) + (51 × 1) + (47 × 1) + (44 × 1)
= $\boxed{182}$