

Exercise -1:

If the following T-matrix shows the voters' preference for two candidates competing in four electoral regions that: t_{ij} refers to the preference ratios of candidate i in the region j , where $i = 1, 2$, $j = 1, 2, 3, 4$. And refers to the number of voters in every region j , $j=1, 2, 3, 4$. Calculate the expected number of voters for each candidate and interpret of results.

$$T = \begin{bmatrix} 0.6 & 0.55 & 0.3 & 0.48 \\ 0.4 & 0.45 & 0.70 & 0.52 \end{bmatrix},$$
$$B^t = \begin{bmatrix} 80000 & 70000 & 150000 & 90000 \end{bmatrix}$$