Question 1

Consider a two-way classification model as follows,

$$y_{ijk} = \mu + \alpha_i + \beta_j + (\alpha\beta)_{ij} + \epsilon_{ijk}.$$

For each cell, we calculate the sample size n_i, sample mean $\bar{y}_{i.}$ and the SS $\sum(y_{ij} - \bar{y}_{i.})^2$. Put them into $(n_i, \bar{y}_{i.}, \sum(y_{ij} - \bar{y}_{i.})^2)$, and then form the following table.

A B	1	2	3
1	(4,35.25,1076.75)	(4,52.25,604.75)	(4,71.5,581)
2	(4,31.5,345)	(4,50.75,726.75)	(4,61.75,160.75)

Please derive the ANOVA table.

Question 2

Construct a test to check

$$H_0 : \alpha_1 = \alpha_2 = 0.$$

Conclusion about the above results.