Q1. State the theory and mathematical model of least-square matching. Mention how to generate initial values of unknown parameters in this technique.

Q2. Regarding Q2 of Assignment 3, and after reaching the integer position of maximum normalized correlation coefficient,

a) Compute the optimum sub-pixel position of the template window by estimating its translation with respect to the matching window using the technique of least-squares matching, ignoring the radiometric differences between the two windows.

b) Compute the optimum sub-pixel position of the template window by estimating its translation with respect to the matching window using the technique of least-squares matching, considering the radiometric differences between the two windows.

Q3. Regarding Q4 of Assignment 3, and after reaching the integer position of maximum normalized correlation coefficient, compute the optimum sub-pixel position of the template window by estimating its translation with respect to the matching window using the technique of least-squares matching, considering the radiometric differences between the two windows.