

Question 2

- (c) During the post-processing stage, the final step of the SIMPLE acronym has to be completed - Evaluate. In this stage, the analyst will need to evaluate the results returned. Questions like what previous steps have influenced the ~~results~~ results should be considered. FEA is an approximate result so engineering judgement should be ~~to~~ used. If something does not look correct, it probably isn't. You should carry out both subjective and quantitative checks. If consequences of inaccurate results are substantial, you need to ensure repeated tests reach a convergence in your results. Physical testing may also be needed for safety or quality approval / sign off. Checks should be carried out for element type (1D, 2D or 3D), element size, and mesh. These include element size, element quality, element duplicates, element free edges and element normals. These are various aspects of element quality to consider including skewness, aspect ratio, warpage, Jacobian and element length. Again more complex checks may be required for 3D elements like tetra collapse and volumetric skew.