Stress, strain, Elasticity and Plasticity

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Lecture – 1: Stress transformation and Mohr’s circle for stresses

1. Quiz:
   1. What is the difference between plane stress and plane strain?
   2. A perfectly plastic material is yielding under the stress state $\sigma_1$, $\sigma_2$, $\sigma_3$ where $\sigma_1 > \sigma_2 > \sigma_3$. Explain what happens if $\sigma_1$ is increased.
   3. What is the dilatation of a material with a Poisson’s ratio of 0.5?
   4. Is it possible to have a material with Poisson’s ratio more than 0.5? Explain.