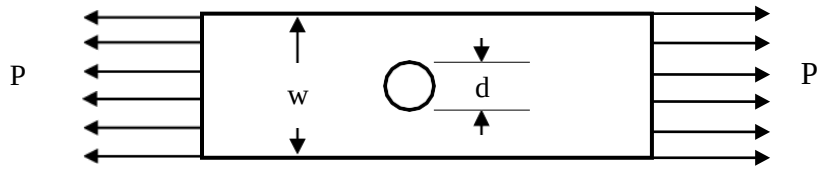
ME 478
PROJECT 1
DUE:
April 3, 2024



a) Consider a thin sheet made from steel loaded in tension with a hole through it as indicated in the figure above. Determine the stress concentration factor, K, as a function of d/w. The answer should be in the form of a numerically obtained equation.
   - Hint: Start from $K = {}^{\sigma_{Max}}/_{\sigma_{Average}}$ where $\sigma_{Average}$ is the stress equal to F/A (F is the total force and A is the cross-sectional area, (w-d)*th) and σ_{Max} is found via ANSYS.

b) Considering your solutions as well as convergence of the model, how sensitive are your results to
   i) to mesh density?
   ii) to Poisson's ratio?

Include images of your results to validate your **conclusion**.