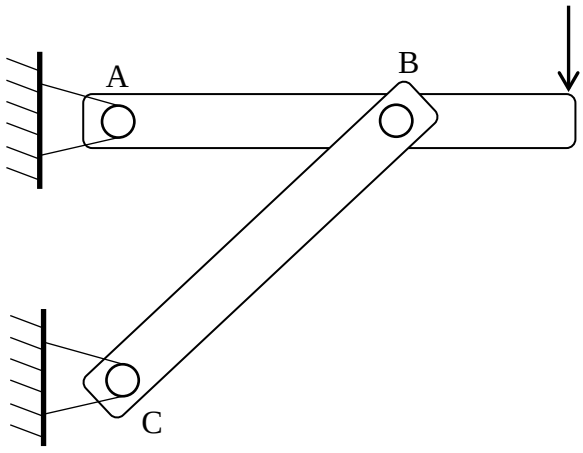
The support bar *BC*, used in a structural system as shown in the figure, is tested in two labs. The probability of yield failure based on the results from lab 1 is 10^{-3}, and the probability of buckling failure estimated by lab 2 is 10^{-2}. If the two failure modes are assumed to be independent, what is the reliability (the probability that the bar does not fail) of the bar?



Solution

The reliability of bar $R = 0.9890$