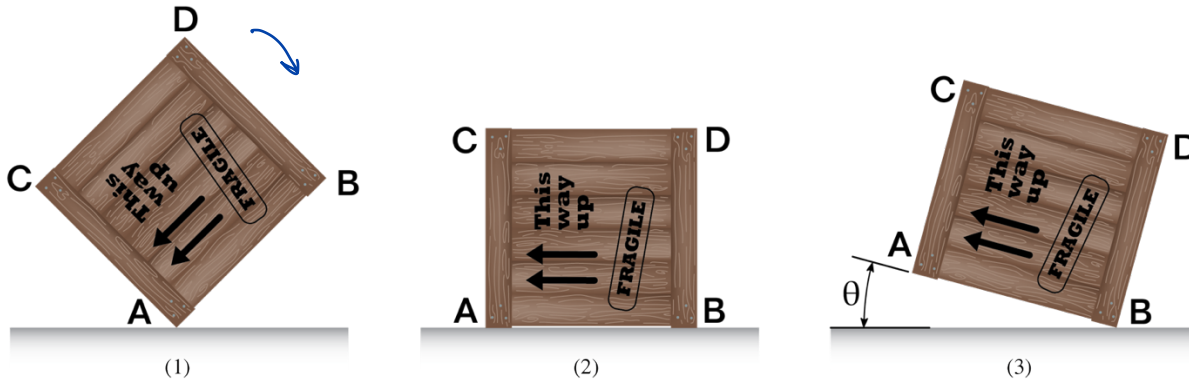
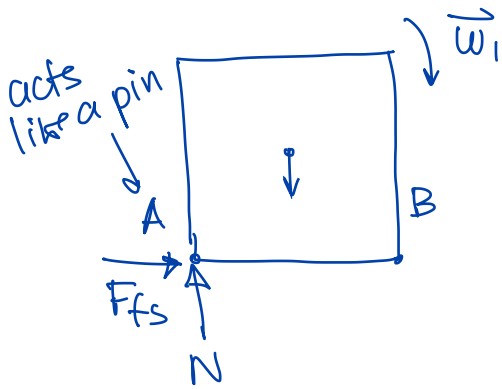


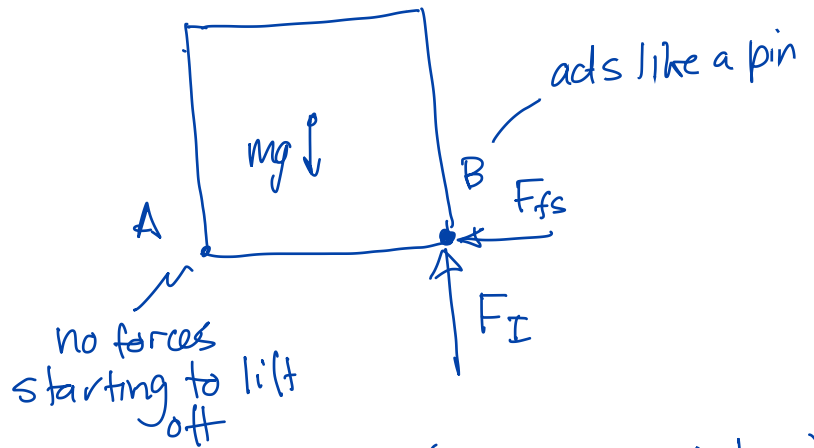
The square crate (dimensions $a \times a = 0.8 \text{ m} \times 0.8 \text{ m}$, mass $m = 20 \text{ kg}$) has an initial angular velocity just before impact of $\vec{\omega}_1 = 4 \text{ rad/s}$. It impacts the ground at corner B (perfectly plastic impact). Determine the angle, θ , through which the crate will rotate upwards and the percentage of energy lost in the impact. Assume friction prevents slipping throughout.



State 1 just before impact



State 2 just after impact



$\int F_I dt \gg$ any other impulse in problem (all other impulses negligible)

\vec{K}_B conserved



