\[
\frac{1}{c} = \frac{M}{EI} \quad \text{radius of curvature}
\]

\[
\frac{1}{c} = \frac{d^2y}{dx^2} = \frac{M}{EI}
\]

Small displacement

\[
\frac{d^2y}{dx^2} = \frac{M}{EI}, f(x)
\]
Beam Deflection

\[ \frac{d^2y}{dx^2} = -\frac{M(x)}{EI} \]

Moment as a function of position of the beam.

\[ EI \frac{d^2y}{dx^2} = M(x) \]

Moment Equation

\[ y(x) = \text{Deflection at any point x} \]

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