MATLAB - Intro Learning Module
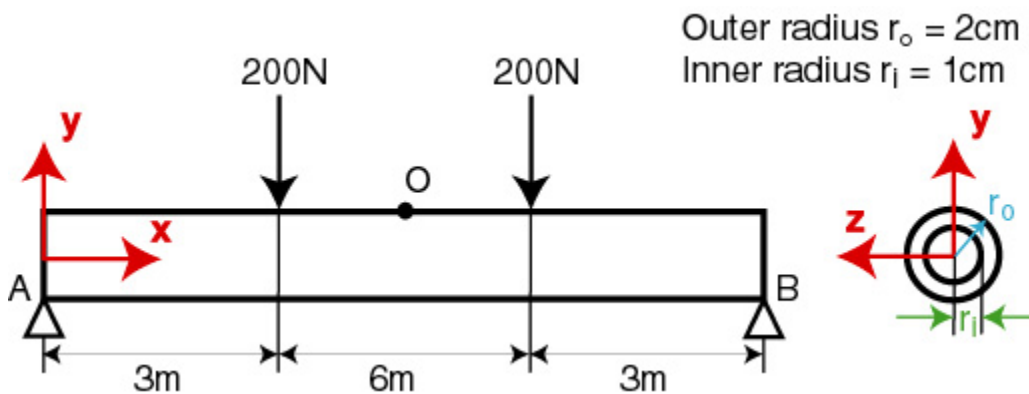
Author: Rajesh Bhaskaran, Cornell University

MATLAB Introductory Learning Module

Created using MATLAB R2013a

Problem Specification

Consider the beam shown in the figure below. Using MATLAB,

a) Find the reactions R_A, R_B
b) Find the bending stress $_x$ at point O
c) Plot the variation of $_x$ at point O as the inner radius of the tube is varied in the range 0.5 cm $< r_i <$ 1.5 cm

Solution Steps

The MATLAB solution is divided into the following steps:

- Step 1: Find Reactions R_A, R_B
- Step 2: Find $_x$ for $r_i = 1$ cm
- Step 3: Plot $_x$ vs. r_i
- Step 4: Plot $_x$ vs. r_i: Take 2
- Step 5: Plot $_x$ vs. r_i: Take 3
- Step 6: Plot $_x$ vs. r_i: Take 4

Conventions Used

In this tutorial, items and options appearing within the MATLAB graphical user interface are denoted in ***purple, italic, and bold***.

Text and numbers that need to be entered are indicated in `monospace font`.

Let's dive into step 1 without further ado.

Go to Step 1: Find Reactions R_A, R_B

Go to all MATLAB Learning Modules