

MATLAB - Intro Learning Module

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Problem Specification

1. Find Reactions R_A , R_B
2. Calculate σ_x for $r_i = 1$ cm
3. Plot σ_x vs. r_i
4. σ_x vs. r_i (Take 2)
5. σ_x vs. r_i (Take 3: File Input/Output)
6. σ_x vs. r_i (Take 4: Functions)

Tips

Comments

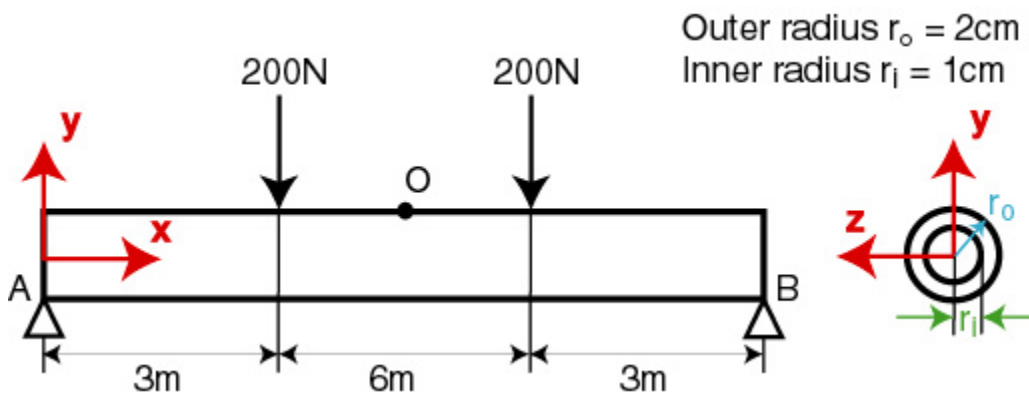
MATLAB Introductory Learning Module

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 σ_x at point O
- c) Plot the variation of σ_x at point O as the inner radius of the tube is varied in the range $0.5 \text{ cm} < r_i < 1.5 \text{ cm}$



Solution Steps

The MATLAB solution is divided into the following steps:

- Step 1: Find Reactions R_A , R_B
- Step 2: Find σ_x for $r_i = 1$ cm
- Step 3: Plot σ_x vs. r_i
- Step 4: Plot σ_x vs. r_i : Take 2
- Step 5: Plot σ_x vs. r_i : Take 3
- Step 6: Plot σ_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](#)