

Engineering Report: Simply Supported Beam Analysis

Osdag Internship Project

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1 Introduction

This report presents the analysis of a simply supported beam under various loads. The detailed Shear Force and Bending Moment diagrams are generated programmatically.

1.1 Beam Setup



Figure 1: Simply Supported Beam Configuration

2 Input Data

The loading data extracted from the Excel file is shown below.

2.1 Load Table

Load Type	Magnitude (kN)	Position (m)	Start Position (m)	End Position (m)
UDL	6	NaN	0	15

Table 1: Load Configuration

3 Analysis Results

Calculated Reactions:

R_a (Left Support): 45.00 kN

R_b (Right Support): 45.00 kN

3.1 Shear Force Diagram (SFD)

The Shear Force Diagram shows the variation of shear force along the beam.

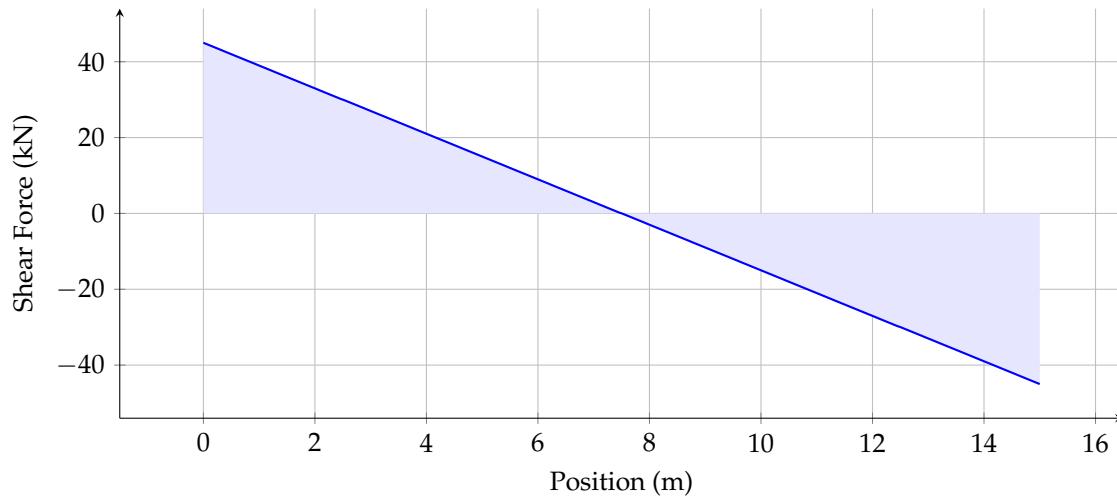


Figure 2: Shear Force Diagram

3.2 Bending Moment Diagram (BMD)

The Bending Moment Diagram shows the variation of bending moment along the beam.

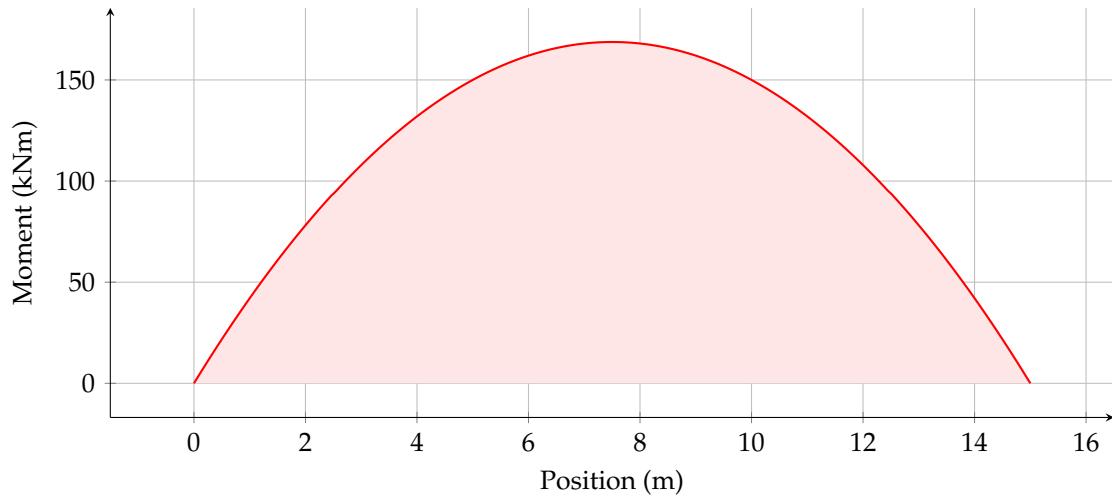


Figure 3: Bending Moment Diagram