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Course : ENG 282

Department : Mechanical Engineering

Assignment 3

Command window

clear

clc

close all

Syms x y z i j k

$$\text{phi} = x^{(2)} * y * z^{(3)} + x * y^{(2)} * z^{(2)}$$

$$a = \text{diff}(\text{phi}, x)$$

$$b = \text{diff}(\text{phi}, y)$$

$$c = \text{diff}(\text{phi}, z)$$

$$x = 1, y = 3, z = 2$$

$$a_n = \text{subs}(a)$$

$$b_n = \text{subs}(b)$$

$$c_n = \text{subs}(c)$$

$$a_{nn} = \text{subs}(a_n) * i$$

$$b_{nn} = \text{subs}(b_n) * j$$

$$c_{nn} = \text{subs}(c_n) * k$$

$$\text{grad}(\text{phi}) = a_{nn} + b_{nn} + c_{nn}$$