

Work v. char

Assignments

17/11/2016/06

Mechanical Engineer

If  $\phi = x^2 y z^3 + x y z^2$  with MATLAB Program to determine grad  $\phi$  at Point  $(1, 3, 2)$

Sol.

Command window

clear

clc

Syms a b c x y z G i j k w

$$u = 1 (x^2 z)^y y^x (z^3) + x^2 (y z)^x (z^2)$$

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

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

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

$$G = a^i + b^j + c^k$$

$$x = 1$$

$$y = 3$$

$$z = 2$$

$$w = i^k (y^2 z^2 + z^2 x^y z^3) +$$

$$j^x (x^2 z^3 + z^2 y x^2 z^2) +$$

$$k (3 x^2 y z^2 + z^2 y^2)$$