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If $\phi = x^2 y z^3 + x y^2 z^2$ write a MATLAB mfile program to determine the gradient at point $p(1, 3, 2)$.

command window

close all

clear

clc

$\text{syms } x, y, z$

$B = (x^2 * y * z^3) + (x * y^2 * z^2)$

$S = \text{diff}(B, x)$

$T = \text{diff}(B, y)$

$V = \text{diff}(B, z)$

$x = 1$

$y = 3$

$z = 2$

$S_n = \text{subs}(S)$

$T_n = \text{subs}(T)$

$V_n = \text{subs}(V)$