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MECHANICAL ENGR.

- If  $d = x^2 y z^3 + x y^2 z^2$ , write a MATLAB mfile program to determine gradient point  $P(1, 3, 2)$ .

1. Command window
2. clear
3. clc.
4. Syms x, y.
5. Sym z
6.  $A = (x^2 * y * z^3) + (x * y^2 * z^2)$ .
7.  $u = \text{diff}(A, z)$ .
8.  $v = \text{diff}(A, y)$
9.  $w = \text{diff}(A, x)$ .
10.  $x = 1$
11.  $y = 3$
12.  $z = 2$
13.  $u_n = \text{subs}(u)$
14.  $v_n = \text{subs}(v)$
15.  $w_n = \text{subs}(w)$