Determine whether the function $f(z) = 2x - x^3 - xy^2 + i(x^2 + y^3 - 2y)$ is analytic. 97 中央機械能源光機電生醫 6]

[解]$u = 2x - x^3 - xy^2$, $v = x^2 + y^3 - 2y$

$u_x = 2 - 3x^2 - y^2$, $v_y = 2x + 3y^2 - 2$

$u_x \neq v_y \Rightarrow f(z)$不為解析