

$$\mathbf{J} = \begin{pmatrix} \frac{dy_1}{dx_1} & \frac{dy_1}{dx_2} & \cdots & \frac{dy_1}{x_n} \\ \frac{dy_2}{dx_1} & \frac{dy_2}{dx_2} & \cdots & \frac{dy_2}{x_n} \\ \vdots & \vdots & \vdots & \vdots \\ \frac{dy_m}{dx_1} & \frac{dy_m}{dx_2} & \cdots & \frac{dy_m}{x_n} \end{pmatrix}$$