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Lecture Notes
Mathematical Analysis
Calculus, Analysis
Mathematical Proofs
Analysis Lectures

Suppose f is a function from \mathbb{R}^n to \mathbb{R}^m . We say f is **DIFFERENTIABLE** at $a \in \mathbb{R}^n$ if there exists a linear map L such that $f(a+h) = f(a) + L(h) + o(\|h\|)$ as $h \rightarrow 0$. The linear map L is called the **Jacobian matrix** of f at a , denoted $Jf(a)$. The Jacobian matrix is a $m \times n$ matrix whose entries are the partial derivatives of the components of f at a .

(Theorem 1.1)

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