FindMinimum,

\[\text{FindMinimum}[f, \{x, x_0\}]\] searches for a local minimum in \(f\), starting from the point \(x = x_0\).

FindMinimum returns a list of the form \([f_{\text{min}}, \{x \to x_{\text{min}}\}]\), where \(f_{\text{min}}\) is the minimum value of \(f\) found, and \(x_{\text{min}}\) is the value of \(x\) for which it is found.

\[\text{FindMinimum}[f, \{x, x_0, x_1\}]\] searches for a local minimum in \(f\) using \(x_0\) and \(x_1\) as the first two values of \(x\). This form must be used if symbolic derivatives of \(f\) cannot be found.

\[\text{FindMinimum}[f, \{x, x_{\text{start}}, x_{\text{min}}, x_{\text{max}}\}]\] searches for a local minimum, stopping the search if \(x\) ever gets outside the range \(x_{\text{min}}\) to \(x_{\text{max}}\).

\[\text{FindMinimum}[f, \{x, x_0\}, \{y, y_0\}, \ldots]\] searches for a local minimum in a function of several variables.

FindMinimum works by following the path of steepest descent from each point that it reaches. The minima it finds are local, but not necessarily global, ones.

The following options can be given:

- **AccuracyGoal** (6) the accuracy sought in the value of the function at the minimum
- **Gradient** (Automatic) the list of gradient functions \(\{D[f, x], D[f, y], \ldots\}\)
- **MaxIterations** (30) maximum number of iterations used
- **WorkingPrecision** (Precision[1.]) the number of digits used in internal computations

See page 481. See also: D, Fit.