

Notes on NEWUOA

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Algorithm 0.1 labelalg:newuoa

Input: $y_0 \in^n$, $\Delta_0 \in (0, +\infty)$, $m \in \{n+2, n+3, \dots, (n+1)(n+2)/2\}$.

1. **Initialize.** Initial interpolation set \mathcal{X}_0 such that $y_0 \in \mathcal{X}_0$ and $|\mathcal{X}_0| = 0$.
 $x_0 = \operatorname{argmin}\{f(y) \mid y \in \mathcal{X}_0\}$, $Q_0 = \operatorname{argmin}\{\|\nabla^2 Q\|_F \mid Q(y) = f(y) \text{ for all } y \in \mathcal{X}_0\}$
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