

TRUST REGION ASSIGNMENT

1. RESEARCH THE DOGLEG METHOD

In your discussion describe and graphically illustrate

- The steepest descent direction
- The full step
- The dogleg path

2. CODE THE TRUST REGION ALGORITHM (IN MATLAB) USING THE DOGLEG METHOD

Solve the following problem

$$\min_{\underline{x}} f(\underline{x}) = 10(x_2 - x_1^2)^2 + (x_1 - 1)^2,$$

where $\underline{x} = [1, 0]^T$, $\Delta^0 = 1$, $\Delta = 1$ and $\eta = \frac{1}{4}$.

Due date: 5 May 2016 @14:15.