

$$y = a \frac{(x-x_1)}{(x_0-x_1)} \frac{(x-x_2)}{(x_0-x_2)} \frac{(x-x_3)}{(x_0-x_3)} + b \frac{(x-x_0)}{(x_1-x_0)} \frac{(x-x_2)}{(x_1-x_2)} \frac{(x-x_3)}{(x_1-x_3)} + c \frac{(x-x_0)}{(x_2-x_0)} \frac{(x-x_1)}{(x_2-x_1)} \frac{(x-x_3)}{(x_2-x_3)} + d \frac{(x-x_0)}{(x_3-x_0)} \frac{(x-x_1)}{(x_3-x_1)} \frac{(x-x_2)}{(x_3-x_2)}$$

A				
1	0	0	0	0
0.829	0.263	-0.11	0.016	0
0	1	0	0	0
0	0	1	0	0
0.115	-0.51	0.974	0.417	1
0	0	0	1	1

x	y
$x_0 = 0$	$y_0 = 0$
$x_1 = 0.03$	$y_1 = 0.2$
$x_2 = 0.3$	$y_2 = 0.65$
$x_3 = 0.6$	$y_3 = 0.8$
$x_4 = 0.85$	$y_4 = 0.98$
$x_5 = 1$	$y_5 = 1$

y	2.25E-02
$y_0 = 0$	$a = 0$
$y_1 = 0.65$	$b = 0.00994$
$y_2 = 0.8$	$c = 0$
$y_3 = 1$	$d = 0$
$y_4 = 0.868$	0.01261
$y_5 = 1$	0

$\partial y / \partial c$
0
-0.11
0
1
0.974
0

f-y
0
-0.1
0
0
-0.11
0

$(J^T J)^{-1}$
0.51

$J^T(f-y)$
-0.1

Δ
-0.05

New	y
$0 = a$	0
$0.65 = b$	0.095
$0.85 = c$	0.01106
$1 = d$	0
	0.85
	0.00252
	0.917
	0.00401
	1
	0

y	1.76E-02
0	0
0.1	0.00994
0.65	0
0.8	0
0.868	0.01261
1	0

$\partial y / \partial b$	$\partial y / \partial c$
0	0
0.263	-0.11
1	0
0	1
-0.51	0.974
0	0

f-y
0
-0.1
0
0
-0.11
0

$(J^T J)^{-1}$
0.843
0.224

$J^T(f-y)$
0.031
-0.1

Δ
0.004
-0.05

New	y
$0 = a$	0
$0.646 = b$	0.094
$0.849 = c$	0.01124
$1 = d$	0
	0.646
	$1.4E-05$
	0.849
	0.00243
	0.918
	0.0039
	1
	0

y	1.76E-02
0	0
0.094	0.01124
0.646	$1.4E-05$
0.849	0.00243
0.918	0.0039
1	0

$\partial y / \partial a$	$\partial y / \partial b$	$\partial y / \partial d$
1	0	0
0.829	0.263	0.016
0	1	0
0	0	0
0.115	-0.51	0.417
0	0	1

f-y
0
-0.1
0
0
-0.11
0

$(J^T J)^{-1}$
0.597
-0.08
-0.05

$J^T(f-y)$
-0.1
0.031
-0.05

Δ
-0.06
0.025
-0.03

New	y
$0.057 = a$	0.057
$0.65 = b$	0.00328
$0.775 = c$	0.151
$1.034 = d$	0.00239
	0.65
	0
	0.775
	0.00061
	0.864
	0.01337
	1.034
	0.00115

y	2.08E-02
0.057	0.00328
0.151	0.00239
0.65	0
0.775	0.00061
0.864	0.01337
1.034	0.00115

A				
1	0	0	0	0
0.829	0.263	-0.11	0.016	0
0	1	0	0	0
0	0	1	0	0
0.115	-0.51	0.974	0.417	1
0	0	0	1	1

$(A^T A)^{-1}$
0.598
-0.09
-0.02
-0.04
-0.09
0.862
0.213
0.083
-0.02
0.213
0.602
-0.17
-0.04
0.083
-0.17
0.926

$A^T y$
0.278
0.207
1.733
1.412

New	y
$0.056 = a$	0.056
$0.64 = b$	0.00311
$0.843 = c$	0.14
$1.022 = d$	0.00363
	0.64
	$9.3E-05$
	0.843
	0.00181
	0.93
	0.00254
	1.022
	0.00049

y	1.17E-02
0.056	0.00311
0.14	0.00363
0.64	$9.3E-05$
0.843	0.00181
0.93	0.00254
1.022	0.00049

