

EXPFUN

Mk function: @(x)hessf(x)

x0 = [1.00 ; -0.50]

.. #	0: R=	NaN	f(x)=	1.3769	x(1)=	1	x(2)=	-0.5	step=	NaN	crate=	NaN	gradf =	1.257
NF #	1: R=	0.20999	f(x)=	0.99287	x(1)=	-0.81343	x(2)=	0	step=	1	crate=	NaN	gradf =	0.67148
NF #	2: R=	0.27456	f(x)=	0.77471	x(1)=	0.4094	x(2)=	0	step=	1	crate=	NaN	gradf =	0.38797
NF #	3: R=	0.42474	f(x)=	0.69427	x(1)=	-0.047305	x(2)=	0	step=	1	crate=	0.37348	gradf =	0.04727
NF #	4: R=	0.49888	f(x)=	0.69315	x(1)=	7.0603e-05	x(2)=	0	step=	1	crate=	0.10373	gradf =	7.0603e-05
NF #	5: R=	0.5	f(x)=	0.69315	x(1)=-2.3455e-13	x(2)=	0	step=	1	crate=	0.0014903	gradf =	2.3453e-13	

Mk function: @(x)hessf(x)

Hessian approximation at last iterate (rank = 2, condition = 2, eigenvalues = (1, 2)):

1	0
0	2

Hessian (exact) at last iterate (rank = 2, condition = 2, eigenvalues = (1, 2)):

1	0
0	2

x0 = [1.00 ; -0.50]

x = [-0.00000000 ; 0.00000000]

f(x) = 0.69314718

#it = 5 #f = 16 #gradf = 6 #hessf = 5

Mk function: @(x)diag(diag(hessf(x)))

x0 = [1.00 ; -0.50]

.. #	0: R=	NaN	f(x)=	1.3769	x(1)=	1	x(2)=	-0.5	step=	NaN	crate=	NaN	gradf =	1.257
NF #	1: R=	0.20999	f(x)=	0.99287	x(1)=	-0.81343	x(2)=	0	step=	1	crate=	NaN	gradf =	0.67148
NF #	2: R=	0.27456	f(x)=	0.77471	x(1)=	0.4094	x(2)=	0	step=	1	crate=	NaN	gradf =	0.38797
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NF #	4: R=	0.49888	f(x)=	0.69315	x(1)=	7.0603e-05	x(2)=	0	step=	1	crate=	0.10373	gradf =	7.0603e-05
NF #	5: R=	0.5	f(x)=	0.69315	x(1)=-2.3455e-13	x(2)=	0	step=	1	crate=	0.0014903	gradf =	2.3453e-13	

Mk function: @(x)diag(diag(hessf(x)))

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f(x) = 0.69314718

#it = 5 #f = 16 #gradf = 6 #hessf = 5

Mk function: @(x)hessf(x0)

x0 = [1.00 ; -0.50]

.. #	0: R=	NaN	f(x)=	1.3769	x(1)=	1	x(2)=	-0.5	step=	NaN	crate=	NaN	gradf =	1.257
NF #	1: R=	0.20999	f(x)=	0.99287	x(1)=	-0.81343	x(2)=	0	step=	1	crate=	NaN	gradf =	0.67148
NF #	2: R=	0.20999	f(x)=	0.97428	x(1)=	0.78543	x(2)=	0	step=	1	crate=	NaN	gradf =	0.65581
NF #	3: R=	0.20999	f(x)=	0.96821	x(1)=	-0.77612	x(2)=	0	step=	1	crate=	0.97667	gradf =	0.65047
NF #	4: R=	0.20999	f(x)=	0.966	x(1)=	0.77272	x(2)=	0	step=	1	crate=	0.99187	gradf =	0.64851
NF #	5: R=	0.20999	f(x)=	0.96517	x(1)=	-0.77144	x(2)=	0	step=	1	crate=	0.99698	gradf =	0.64777
NF #	6: R=	0.20999	f(x)=	0.96485	x(1)=	0.77096	x(2)=	0	step=	1	crate=	0.99886	gradf =	0.64748
NF #	7: R=	0.20999	f(x)=	0.96473	x(1)=	-0.77077	x(2)=	0	step=	1	crate=	0.99956	gradf =	0.64738
Nr #	8: R=	0.20999	f(x)=	0.69315	x(1)=-3.5704e-05	x(2)=	0	step=	0.5	crate=	0.49992	gradf =	3.5704e-05	
Nr #	9: R=	0.20999	f(x)=	0.69315	x(1)= 6.8034e-06	x(2)=	0	step=	0.5	crate=	5.5152e-05	gradf =	6.8034e-06	
Nr #	10: R=	0.20999	f(x)=	0.69315	x(1)=-1.2964e-06	x(2)=	0	step=	0.5	crate=	0.19055	gradf =	1.2964e-06	
Nr #	11: R=	0.20999	f(x)=	0.69315	x(1)= 2.4702e-07	x(2)=	0	step=	0.5	crate=	0.19055	gradf =	2.4702e-07	

Mk function: @(x)hessf(x0)

Hessian approximation at last iterate (rank = 2, condition = 4.762196e+00, eigenvalues = (0.419974, 2)):

0.419974341614026	0
0	2

Hessian (exact) at last iterate (rank = 2, condition = 2.000000e+00, eigenvalues = (1, 2)):

0.999999999999939	0
0	2

x0 = [1.00 ; -0.50]

x = [0.00000025 ; 0.00000000]

f(x) = 0.69314718

#it = 11 #f = 38 #gradf = 12 #hessf = 11