https://github.com/hyeonjang/numerical-optimization
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Homework 3

EC6301
Numerical Opimization
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initial point	$f(x,y)$	Performance(x,y)			
		Steepest descent	Newton's	SR1	BFGS
[1.2, 1.2]	(a)	[2.003, 2.003]	[2, 2]	[2, 2]	[2, 2]
	(b)	[1, 1]	[1, 1]	[1.000, 1.000]	[1.016, 1.027]
	(c)	[2.999, 0.501]	fail[0.041, 1.001]	fail[1.2, 1.2]	fail[7.11,-1.59]
[5.6,-1.2]	(a)	[1.999, 1.999]	[2, 2]	[2, 2]	[2, 2]
	(b)	[0.999, 0.991]	fail[-152.879, 563.325]	[1, 1]	[1, 1.000]
	(c)	[3.000, 0.4980]	fail[0.007, 1.026]	fail[5.6, -1.2]	fail[5.6, -1.2]
[-3.5,2.3]	(a)	[1.999, 1.999]	[2, 2]	[2, 2]	[2, 2]
	(b)	[0.996, 0.986]	fail[-nan, -nan]	[1, 1]	[1, 1]
[10.5,-8.3]	(a)	[1.999, 1.999]	[2, 2]	[2, 2]	[2, 2]
	(b)	[0.991, 0.988]	fail	fail	fail
	(c)	[8.821, 0.972]	fail	fail	fail

- The convergence speed of Powell's method is worse than Nelder-Mead method for every given functions.
- It is because Powell's method has a dependency on the univarite method.
- Because I have given the initial points randomly, it happens not to converge. The Figure 2, which shows the result of Powell's method of the second function, is the case which cannot find the global minima.