import math

from scipy import optimize

x0 = 0.65

y0 = -0.25

def f2(x):

return -1.2 + math.sin(x+0.5)

def f1(y):

return (-math.cos(y-2))

def iter (x,y,e):

xn=x

yn=y

xn1=f2(x)

yn1=f1(y)

n=1

while((abs(xn1-xn)>=e)&(abs(yn1-yn)>=e)):

xn=xn1

yn=yn1

xn1=f2(yn)

yn1=f1(xn1)

n=n+1

print("The solution by the method of simple iteration")

print("x = ", xn1)

print("y = ", yn1)

print("Number of iterations = ", n)

iter(x0,y0,0.0001)

print("Check")

def f3(x):

return math.sin(x[0] +0.5) - x[1] - 1.2, math.cos(x[1] - 2) + x[0]

s = optimize.root(f3, [0, 0], method = 'hybr')

print(s.x)

