```python
TOL=1.e-10

x1,x2=0.,0.48
err=1
loop=0
while (err>TOL):
    loop+=1
    if(loop > 30): break
    f1=func(x1)
    f2=func(x2)
    x3=x2-f2*(x2-x1)/(f2-f1)
    err=abs(x3-x1)
    f3=func(x3)
    print ("loop={:2d}  x1={:.5f}  x2={:.5f}  x3={:.5f}  err={:.5e}".format(loop,x1,x2,x3,err))
    if(f2*f3<0):
        x1=x3
    else:
        x2=x3
```