import sympy as sp

x1,x2=sp.symbols ('x1 x2')

function=100\* (x2-x1\*2) \*\*2+(1-x1)\*2

gradient=[sp.diff (function, x1), sp.diff (function, x2)]

hessian=[[sp.diff (gradient [0], x1), sp.diff (gradient [0],x2)], [sp.diff (gradient [1], x1), sp.diff (gradient[1],x2)]]

print("Gradient:")

print(gradient)

print("\nHessian:")

print(hessian)