

Computational Physics Assignment 5: Multi-dimensional Unconstrained Optimization

(1) Find the maximum value of function

$$f(x, y) = 2xy + 2x - x^2 - 2y^2 \quad (1)$$

using the random search method. Use the function `random` from library `random` to generate random numbers.

(2) Find how the error in random search method scales with the numbers of points N . What is the functional form of the error as a function of N ?