Exercise 3: Part 2

Optimisation with Simulated Annealing

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Introduction

The goal of this assignment is to help you practice programming with emphasis to classes and object oriented programming. Your are required to use ***object oriented programming*** techniques in your program.

Description

1. Extend Simulated Annealing using OOP

2. Extend Simulated Annealing code so that it can be used for multi-dimentional problems, i.e more than one variable.

3. Apply to Rosenbrock, Rastrigin, and Ellipsoidal function of 10 dimensions and 20 dimensions. Run 10 experiment each for each problem and provide the mean and std of the fitness once converged. Constraints to be between [-5,5]

4. Also provide the optimal solution from the best experimental run for each case.

Your program will be graded as follows:

Grading Point	**Marks**
OOP Designn	30
	10
	10
	10
Code quality (e.g., variable names, formulation of selection statements and loops, etc) OOP features	10

Resources:

1. Python Tutorial: http://www.tutorialspoint.com/python/
2. https://en.wikipedia.org/wiki/Simulated_annealing
3. https://en.wikipedia.org/wiki/Rosenbrock_function
4. https://en.wikipedia.org/wiki/Rastrigin_function
5. http://profesores.elo.utfsm.cl/~tarredondo/info/soft-comp/functions/node3.html
6.