Evolutionary Algorithms

Project 3

Compare performance of unconstrained optimization processes used in the first project for minimization of the modified Rosenbrock's function without constraints with pattern search method and genetic algorithm

1. Use four starting points from the first project
2. The report, after a <u>short</u> introduction with the function and without theoretical background of optimization algorithms, must present results of calculations. For each starting point and method:
   a. list: initial and final point, accuracy of the final result, number of iterations and function evaluations in a convenient form.
   b. draw 2D banana function contour plot with trajectories of various methods runs, plotting:
      i. a point (current solution) at each iteration (for non-population algorithms).
      ii. a circle with the center in the mean of position of all individuals in the population and radius proportional to the variance of population at each generation (for the GA)
   c. draw the history of optimization – function value at each iteration/generation (in the logarithmic form) versus function evaluation count
3. Present conclusions concisely. Attach Matlab code.
   Reports, in pdf format with the name EA_P3_*StudentName,* and parameter file must be delivered by email till:

Deadline: Jan. 21