Assigment 4

Solve the following three exercises. Each exercise is worth five points. Solutions must be submitted by 15th May 2022. Use the link on e-ucilnica to submit your solutions. Solution must be submitted in *.pdf format. You also need to attach the script that runs your tests. You must solve the assignment individually, no plagiarism.

To pass the course, you must score at least 50% on each assignment (not each exercise). All assignments together are worth 100 points.

Simulated annealing

Write a script that evaluates the following functions from R package **globalOptTests** using simulated annealing form package **genSA**:

- Schaffer1
- Schaffer2
- Salomon
- Griewank
- PriceTransistor
- Expo
- Modlangerman
- EMichalewicz
- Shekelfox5
- Schwefel

You can test the functions in package **globalOptTests** using function *goTest()* using default bounds found by *getDefaultBounds()*.

When using GenSA the initial solution (par) must be set to NULL.

a) For each function report best result (value), standard deviation and distance from optimum using default parameters except setting max.time = 60.

b) Run the same procedure using max.call = 100000 while changing the starting temperature using values 1, 10, 100, 1000.

c) Pick the most appropriate temperature. Justify your choice and decrease max.call by 10000 step. Report the same results as in a) and b).