KING FAHD UNIVERSITY OF PETROLEUM & MINERALS

ELECTRICAL ENGINEERING DEPARTMENT

PROJECT # 2

It is aimed to minimize the below function.

$$f(x_1, x_2, x_3) = {x_1}^2 + 2{x_2}^2 + 3{x_3}^2 + x_1x_2 + x_2x_3 - 8x_1 - 16x_2 - 32x_3 + 110$$

The bounds are $0 \leq x_1, x_2, x_3 \leq 10$

Develop a code to: -

a) Generate randomly 20 possible solutions for ***f*** within the search space.
b) Evaluate ***f*** for each solution.
c) Create a new population by applying the tournament selection with a probability of 90%.
d) Count how many times each solution of the best 5 is selected in the new population.

Submission: Due on Sunday February 6, 2022