**IM 39003 Spring 2022**

**Assignment 5: Genetic Algorithm-II**

**Due Date: Feb 17, 2022 Time: 05:00 PM**

*Instructions:*

*1. Submit this assignment via MS teams by 5:00 PM by turn- in/hand-in*

*2. You need to submit your .m files in zip file format.*

*3. In case of copying you will get a 0 grade for this assignment.*

***Activity 1:***  Write a GA code for following function in two variable using real encoding

Min F(x) = (1-x1)2+100\*(x2-x12)2; -5≤x1≤5; -5≤x2≤5

Constraint: x1^2+x1-x2+1.5<=0

* + Use following parameters:

Population size = 10, Crossover probability= 0.7 and Mutation probability = 0.02; Maximum iteration = 50

* + Use Roulette Wheel selection
  + Include code to use mutation probability

Submission: Submit the codes name it activity1 and then zip it.

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