

Homework Assignment HW#5 – Modified!

Before Answering the questions below, please download the GA.ZIP file on Blackboard and purchase the following course Created by Dr. Seyedali Mirjalili for ~ \$10

“Introduction to Genetic Algorithms: Theory and Applications - Learn the main mechanisms of Genetic Algorithm as a heuristic Artificial Intelligence search or optimization in Matlab

<https://www.udemy.com/course/geneticalgorithm/?couponCode=MATHWORKSREF>

Then use the above software GA product to find the roots of the following nonlinear polynomial function:

$$F(x) = x^5 + 7x^4 + 6x^3 - 4x^2 - 3x + 2 = 0$$

Please write summary of all the GA related stochastic parameters used by you and your observations. Now vary these stochastic parameters and conduct a simple parametric sensitivity analysis. State the lessons you have learned (total 2-3 pages of report for this assignment)
Please add the m files used while submitting

Check your answer with the following

```
>> roots([1 7 6 -4 -3 2])
```

```
ans =
```

```
-5.8804 + 0.0000i  
-1.0502 + 0.2965i  
-1.0502 - 0.2965i  
0.4904 + 0.2124i  
0.4904 - 0.2124i
```