Assignment 2:

The objective of this assignment is to implement and solve non-linear equations using four numerical methods: the Bisection method, Newton-Raphson method, Secant method, and Fixed-Point Iteration method. You will write Python code to implement each method and apply it to solve any three of the given non-linear equations:

Non-Linear Equations	Roots of the Equations			
	Bisection	Newton-Raphson	Secant	Fixed-Point Iteration
$x^2 - 4x + 3 = 0$				
$x^3 - 6x^2 + 11x - 6 = 0$				
$e^x - 3x = 0$				
$\sin(x) - 0.675 = 0$				

Use Newton-Raphson method and Fixed-Point Iteration method to solve the following multivariate coupled equations:

Non-Linear Equations	Roots	
	Newton-Raphson	Fixed-Point Iteration
$x^2 - y = 1 \;\&\; y^2 - x = 1$		

a) Submit a Python script or Jupyter Notebook with the implementations of all four methods.
b) Ensure your code is well-documented with comments explaining the logic behind each step.
c) Fill the table with the roots found for each and submit it in a separate pdf file.
d) Also mention the number of iterations that was required to solve for each.