Single Variable based Unconstrained Optimization (SVUNPP)

Deadline: 31 October 2021

SML Lab Assignment 5

Instruction: It is valid for all questions.

1. Apply the Bisection one dimensional approach to solve the SVUNPP using pen and paper and submit the scan copy.
2. Write the python code and generate the output and submit colab file and pdf file.

Q.1 Find the optimization function whether it is maximization or minimization problem **y= (2*6*x) -(9*x^4/3) -(24*x^6/12)** for the range [0, 2]. Solve the single variable unconstrained optimization problem using one dimensional search procedure in python. Plot and show the optimization function curve for the interval [0, 2].

Q.2 Find the optimization function whether it is maximization or minimization problem **y= (16*x/2) -(27*x^2/9) +(12*x^3/12) -(8*x^4/4) -(x^{12} *x^{36}/x^{42})** for the range [0, 1.2]. Solve the single variable unconstrained optimization problem using one dimensional search procedure in python. Plot and show the optimization function curve for the interval [0, 2].

----------All the Best----------