

BANGLADESH UNIVERSITY OF ENGINEERING AND TECHNOLOGY

Department of Computer Science and Engineering

July 2022 CSE 218 Online Assignment on
Linear and Non-Linear Regression (A1)

Linearize the model $y = \alpha x e^{\beta x}$ and using it write a python code to estimate α and β based on the following data. Develop a plot of your fit along with the data. Predict the values of y at $x = 1.6, 2.0$ and show it in the plot. Assume least square fit for this problem.

You are not allowed to use any library function like `polyfit` or `lstsq` to fit your model.

x	0.1	0.2	0.4	0.6	0.9	1.3	1.5	1.7	1.8
y	0.75	1.25	1.45	1.25	0.85	0.55	0.35	0.28	0.18

Marks distribution:

- Linearization: 8
- Parameter estimation: 8
- Plotting: 4