

# ME 793 - Assignment 3

Department of Mechanical Engineering, IIT Bombay

Spring 2024

Due Date: 11:30 AM, Mar 14, 2024, Marks 20

Assignment Date: 9:30 AM, Mon, Mar 11, 2024

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## Objective and Instructions

1. The objective of this assignment is to perform k-Means clustering on a realistic data of materials.
2. Upto 50 % points can be deducted if the plots are not neat and not labeled adequately.
3. This needs to be performed using Jupyter Notebook or Google Colab Notebook or only.
4. Submit Jupyter Notebook, Jupyter Notebook pdf, and your data file to Moodle.

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**Q 1.** A data file named “material\_data.txt” has been given with this assignment. Plot electronegativity vs. atomic number. How many peaks do you observe in this plot? Cluster the elements based on the number of peaks. Show clusters on an appropriate plot. Plots must be neat and adequately labeled.

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