

# Feature Engineering-3

## Assignment Questions



**Q1. What is Min-Max scaling, and how is it used in data preprocessing? Provide an example to illustrate its application.**

**Q2. What is the Unit Vector technique in feature scaling, and how does it differ from Min-Max scaling? Provide an example to illustrate its application.**

**Q3. What is PCA (Principle Component Analysis), and how is it used in dimensionality reduction? Provide an example to illustrate its application.**

**Q4. What is the relationship between PCA and Feature Extraction, and how can PCA be used for Feature Extraction? Provide an example to illustrate this concept.**

**Q5. You are working on a project to build a recommendation system for a food delivery service. The dataset contains features such as price, rating, and delivery time. Explain how you would use Min-Max scaling to preprocess the data.**

**Q6. You are working on a project to build a model to predict stock prices. The dataset contains many features, such as company financial data and market trends. Explain how you would use PCA to reduce the dimensionality of the dataset.**

**Q7. For a dataset containing the following values: [1, 5, 10, 15, 20], perform Min-Max scaling to transform the values to a range of -1 to 1.**

**Q8. For a dataset containing the following features: [height, weight, age, gender, blood pressure], perform Feature Extraction using PCA. How many principal components would you choose to retain, and why?**

**Note:** Create your assignment in Jupyter notebook and upload it to GitHub & share that github repository link through your dashboard. Make sure the repository is public.