

# Dimensionality Reduction-2

## Assignment Questions



**Q1. What is a projection and how is it used in PCA?**

**Q2. How does the optimization problem in PCA work, and what is it trying to achieve?**

**Q3. What is the relationship between covariance matrices and PCA?**

**Q4. How does the choice of number of principal components impact the performance of PCA?**

**Q5. How can PCA be used in feature selection, and what are the benefits of using it for this purpose?**

**Q6. What are some common applications of PCA in data science and machine learning?**

**Q7. What is the relationship between spread and variance in PCA?**

**Q8. How does PCA use the spread and variance of the data to identify principal components?**

**Q9. How does PCA handle data with high variance in some dimensions but low variance in others?**

**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.