

Solution outline :

Question 1:

- 12 models
- Instant and date features are irrelevant (nominal)
- KNN regression
- No k fold needed
- sklearn regression
 - `sklearn.linear_model.LinearRegression`
 - `sklearn.neighbors.KNeighborsRegressor`
- Metrics :
r2, RMSE, variance

Summary:

- Data preprocessing steps, in short.
- Which model performs better in each case:
 - Casual
 - Registered
 - Total
 - What values or observations led you to reach the conclusion (metrics, etc)

Question 2:

- **n_clusters = 3**
- `init = random`
- `sklearn.cluster.KMeans`
- Figure required, as shown in lectures ("Follow the steps in the k-means demo video from the lectures. ")
- Count values for each cluster.
- Summary:
 - There was an observed structure in the figure when PCA was applied.
 - The clusters had values that can be associated with class counts.
 - Cluster id and class id are not same, and the mapping is not expected.