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# Data Science with Python

## Day 12 – Machine Learning Models & Case Studies

# Today's Agenda

- ✓ **Machine Learning Case Study – Multiple Logistic Regression**
- ✓ **Non Parametric Machine Learning Models**
- Classification using KNN
- ✓ **Machine Learning Case Study – Classification Analysis using KNN**

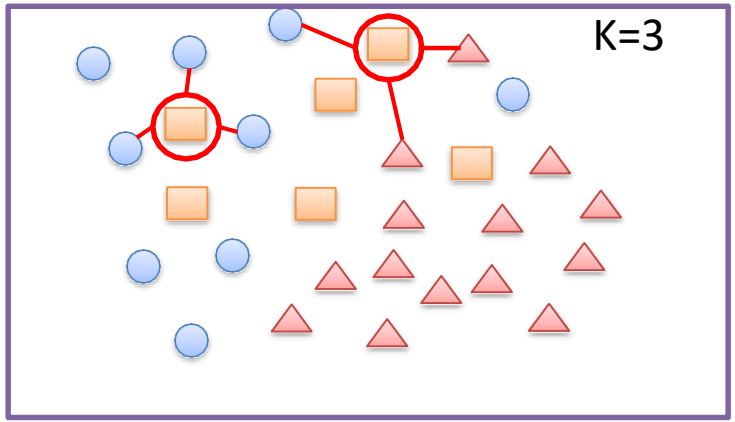
# Case Study

- **Case Study #2 – Multiple Logistic Regression -** Special Assistance Area Prediction (City with Poor Health Conditions)

# Non Parametric Machine Learning Models

## Supervised ML Models (Non - Parametric) - Classification Models – K Nearest Neighbor (KNN) –

Classifying objects into different classes, drawing Boundaries between groups. Classification is used when dependent variable is categorical. KNN works on majority vote concept.




1. Select some value for K
2. Select 1 unknown object ‘o’ to be classified
3. Search for K nearest neighbors for the unknown object ‘0’
4. Check for the most occurring group type for among neighbors
5. Type of ‘o’ = most occurring group type
6. Repeat this for all the objects of unknown class/type

# Case Study

- **Case Study #3 – Classification Analysis –** Prostate Cancer Tumor Classification

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THANK YOU
45%