

**Scenario 1:**

1. Machine learning – Supervised Learning – Classification
2. Collect the data: Collect the data such as credit score, income, and loan history
3. Pre process the collected data: Preprocess the collected data such as missing data using encoding, preprocess the categorical data.
4. Split input and output data customer credit score, income, and past loan history are input Default applicant is output data
5. Split the Training and Test set data:
6. Choose the algorithm: Create model by Logistic Regression, DT, RF, SVM, KNN and algorithms using training set data.
7. Evaluate the model: Evaluate the model using Accuracy, Recall, Precision and F1 score values.
8. Saved the model: Save the best model.
9. Prediction: Predict the loan applicant is default or not.

**Scenario 2:**

1. Machine learning – Supervised Learning – Regression
2. Collect the data: Collect the different product details
3. Pre process the collected data: Preprocess the collected data such as missing data using encoding, preprocess the categorical data
4. Split input and output data: product details as input and demand detail as output data
5. Split the Training and Test set data:
6. Choose the algorithm: Create model by Multiple Regression, DT, RF, SVM algorithms using training set data.
7. Evaluate the model: Evaluate the model using R2\_score.
8. Saved the model: Save the best model.
9. Prediction: Predict the demand on the product using the created model.

**Scenario 3:**

1. Machine learning – Supervised Learning – Classification
2. Collect the data: Collect the data such as sensor readings and quality control data
3. Pre process the collected data: Preprocess the collected data such as missing data using encoding, preprocess the categorical data.
4. Split input and output data sensor readings and quality control data are as inputs and product defective or not as output data
5. Split the Training and Test set data:
6. Choose the algorithm: Create model by Logistic Regression, DT, RF, SVM, KNN and algorithms using training set data.
7. Evaluate the model: Evaluate the model using Accuracy, Recall, Precision and F1 score values.
8. Saved the model: Save the best model.
9. Prediction: Predict the manufactured product defect or not.

**Scenario 4:**

1. Machine learning – Supervised Learning – Classification
2. Collect the data: Collect the patient symptoms details
3. Pre process the collected data: Preprocess the collected data such as missing data using encoding, preprocess the categorical data

4. Split input and output data patient symptoms details as input and patient diseases as output data
5. Split the Training and Test set data:
6. Choose the algorithm: Create model by Logistic Regression, DT, RF, SVM, KNN and algorithms using training set data.
7. Evaluate the model: Evaluate the model using Accuracy, Recall, Precision and F1 score values.
8. Saved the model: Save the best model.
9. Predict the patient diseases category.

#### **Scenario 5:**

1. Machine learning – Supervised Learning – Classification
2. Collect the data: Collect the review details
3. Pre process the collected data: Preprocess the collected data such as missing data using encoding, preprocess the categorical data
4. Split input and output data review details as input and review type as output data
5. Split the Training and Test set data:
6. Choose the algorithm: Create model by Logistic Regression, DT, RF, SVM, KNN and algorithms using training set data.
7. Evaluate the model: Evaluate the model using Accuracy, Recall, Precision and F1 score values.
8. Saved the model: Save the best model.
9. Predict the review type positive or negative.

#### **Scenario 6:**

1. Machine learning – Supervised Learning – Regression
2. Collect the data: Collect the price data and market indicators
3. Pre process the collected data: Preprocess the collected data such as missing data using encoding, preprocess the categorical data
4. Split input and output data: price data and market indicators as input and stock price movement as output data
5. Split the Training and Test set data:
6. Choose the algorithm: Create model by Multiple Regression, DT, RF, SVM algorithms using training set data.
7. Evaluate the model: Evaluate the model using R2\_score.
8. Saved the model: Save the best model.
9. Prediction: Predict the stock price movement using the created model.

#### **Scenario 7:**

1. Machine learning – Supervised Learning – Classification
2. Collect the data: Collect the user activity and profile data
3. Pre process the collected data: Preprocess the collected data such as missing data using encoding, preprocess the categorical data
4. Split input and output data user activity and profile data as input and user account is fake or not as output data

5. Split the Training and Test set data:
6. Choose the algorithm: Create model by Logistic Regression, DT, RF, SVM, KNN and algorithms using training set data.
7. Evaluate the model: Evaluate the model using Accuracy, Recall, Precision and F1 score values.
8. Saved the model: Save the best model.
9. Predict the user account is fake or not.

#### **Scenario 8:**

1. Machine learning – Un-Supervised Learning – Clustering
2. Collect the data: Collect the purchasing details
3. Pre process the collected data: Preprocess the collected data such as missing data using encoding, preprocess the categorical data.
4. Choose the algorithm: Create model by K- Means, DBScan, Affinity Progpagation, MeanShift etc
5. Using Elbow method predict the no of clusters.
6. Create the model and get the cluster groups.
7. Plot the data and predict the customer segments.

#### **Scenario 9:**

1. Machine learning – Supervised Learning – Classification
2. Collect the data: Collect the satellite image details
3. Pre process the collected data: Preprocess the collected data such as missing data using encoding, preprocess the categorical data
4. Split input and output data satellite image details as input and land type as output data
5. Split the Training and Test set data:
6. Choose the algorithm: Create model by Logistic Regression, DT, RF, SVM, KNN and algorithms using training set data.
7. Evaluate the model: Evaluate the model using Accuracy, Recall, Precision and F1 score values.
8. Saved the model: Save the best model.
9. Predict the land type based on the model metrics.

#### **Scenario 10:**

1. Machine learning – Supervised Learning – Classification
2. Collect the data: Collect the user subscription details
3. Pre process the collected data: Preprocess the collected data such as missing data using encoding, preprocess the categorical data
4. Split input and output data subscription details as input and user cancel subscription or not as output data
5. Split the Training and Test set data:
6. Choose the algorithm: Create model by Logistic Regression, DT, RF, SVM, KNN and algorithms using training set data.
7. Evaluate the model: Evaluate the model using Accuracy, Recall, Precision and F1 score values.
8. Saved the model: Save the best model.
9. Predict the user will cancel subscription or not based on the model metrics.

