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|  | Business Intelligence  Practical #9 | | |
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| **Class** | TY BSc. IT | **Division** | A |
| **Subject/Course:** | Business intelligence | | |
| **Topic** | Linear Regression | | |
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| **Overview of Linear Regression**  **What are the steps to perform Linear Regression?** | | | |
| **There are six basic steps when you're implementing linear regression:**  Step 1: Importing the dataset  Step 2: Data pre-processing  Step 3: Splitting the test and train sets  Step 4: Fitting the linear regression model to the training set  Step 5: Predicting test results  Step 6: Visualizing the test results  import numpy as np  import pandas as pd  import matplotlib.pyplot as plt  dataset = pd.read\_csv('/content/Salary\_Data.csv')  dataset.head()    # Data Preprocessing  X = dataset.iloc[:, :-1].values #Independent variable array  y = dataset.iloc[:, 1].values #Dependent variable array  # Splitting the dataset  from sklearn.model\_selection import train\_test\_split  X\_train, X\_test, y\_train, y\_test = train\_test\_split(X, y, test\_size = 1/3, random\_state = 0)  # Fitting linear regression model into the training set  from sklearn.linear\_model import LinearRegression  regressor = LinearRegression()  regressor.fit(X\_train, y\_train) #Actually produces the linear eqn. for the data.    # Predicting the test set results  y\_pred = regressor.predict(X\_test)  y\_pred    y\_test    plt.scatter(X\_train, y\_train, color = 'red') #Plotting the observation line  plt.plot(X\_train, regressor.predict(X\_train), color = 'blue') #Stating the title of the graph  plt.title("Salary VS Experience (Training Set)") #Stating the title of the graph  plt.xlabel("Years of Experience") #Adding the name of X-Axis  plt.ylabel("Salaries") #Adding the name of Y-Axis  plt.show()    plt.scatter(X\_train, y\_train, color = 'red')  plt.plot(X\_train, regressor.predict(X\_train), color = 'blue')  plt.title("Salary VS Experience (Training Set)")  plt.xlabel("Years of Experience")  plt.ylabel("Salaries")  plt.show()    # Predict the salary with 5 Years of Experience  regressor.predict([[5]]) | | | |
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