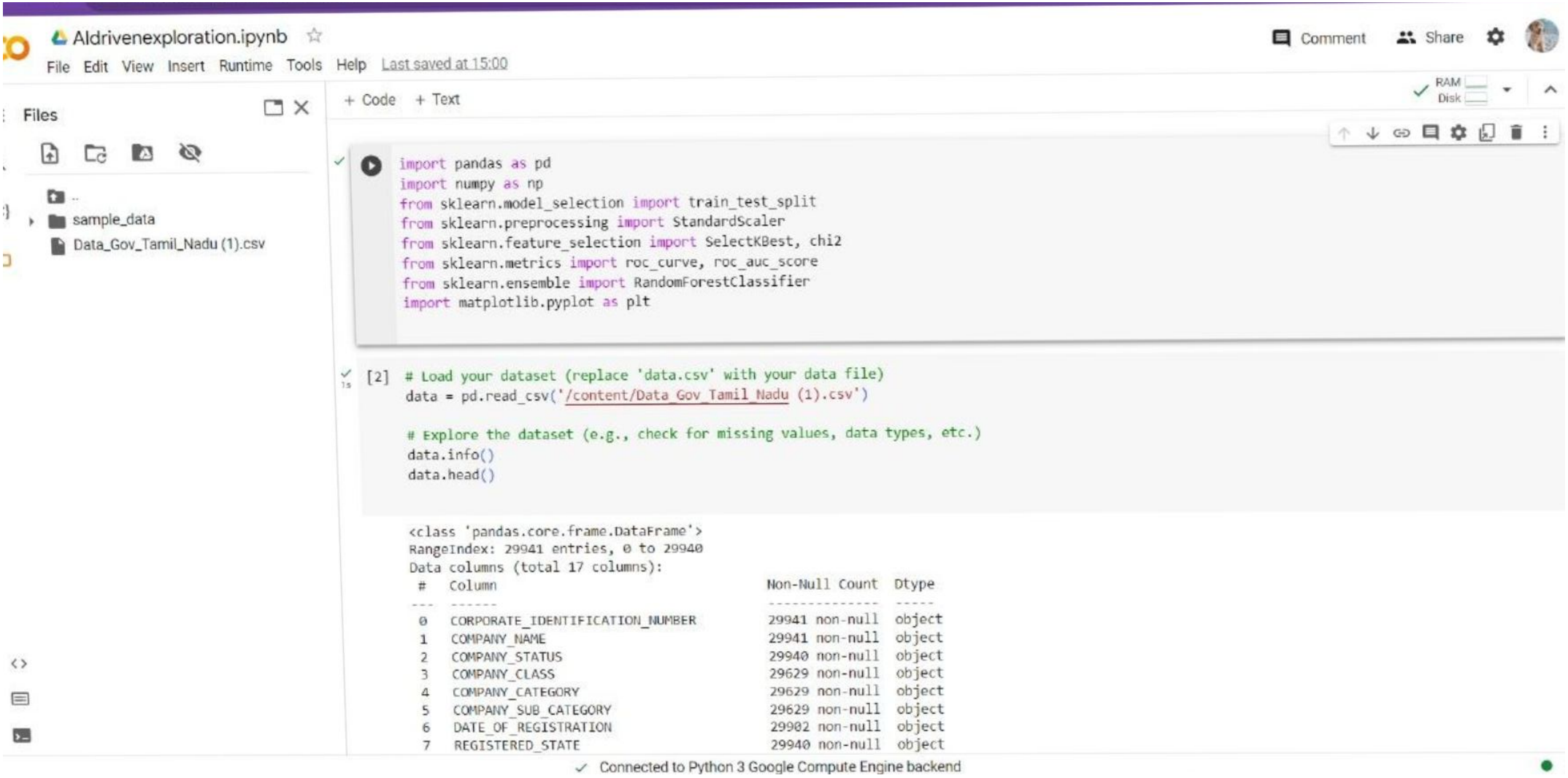

REVOLUTIONIZING COMPANY REGISTRATION TRENDS: AI-DRIVEN EXPLORATION AND PREDICTION WITH ROC DATASETS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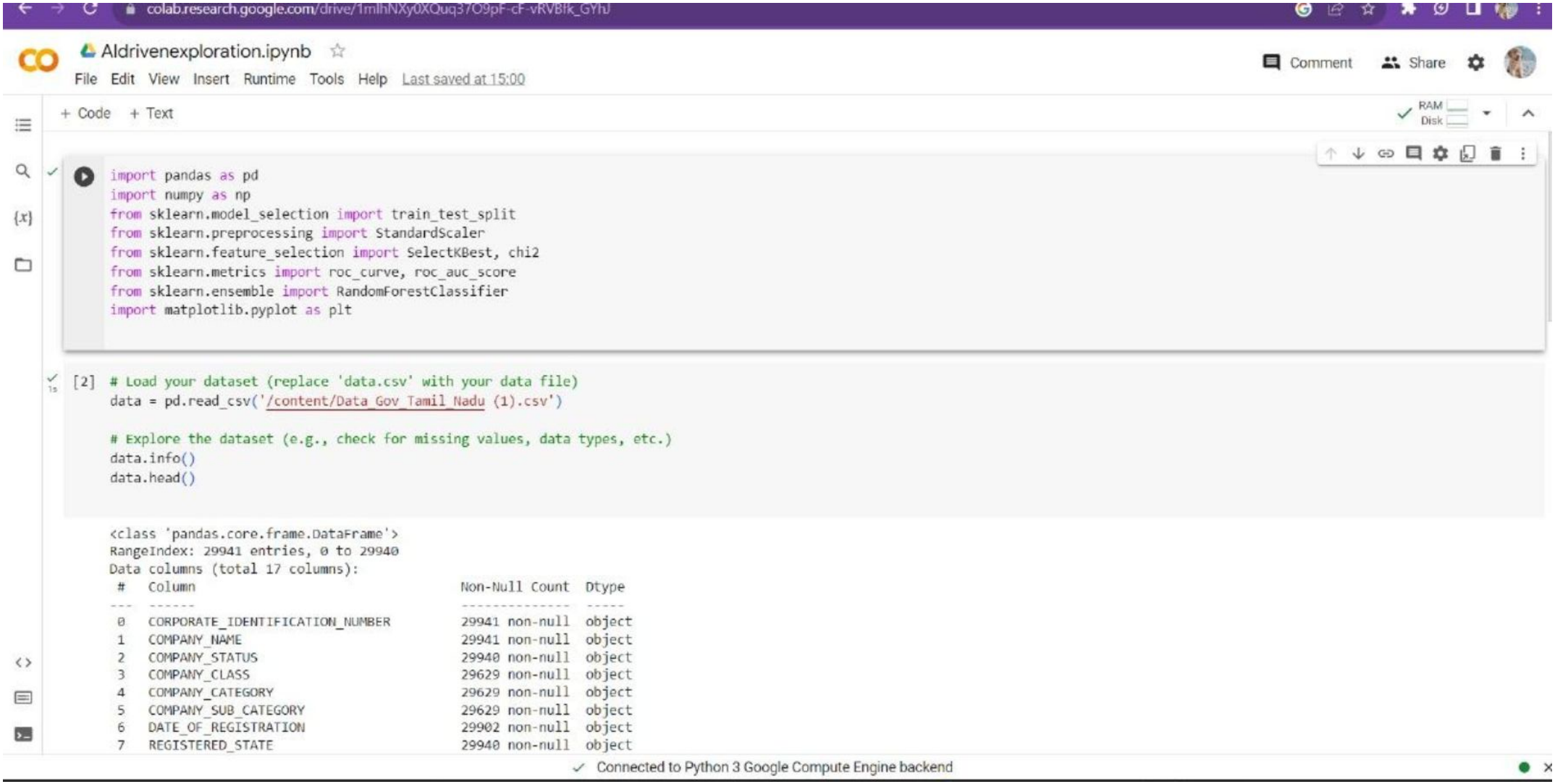
sample_data
Data_Gov_Tamil_Nadu (1).csv
import pandas as pd
import numpy as np
from sklearn.model_selection import train_test_split
from sklearn.preprocessing import StandardScaler
from sklearn.feature_selection import SelectKBest, chi2
from sklearn.metrics import roc_curve, roc_auc_score
from sklearn.ensemble import RandomForestClassifier
import matplotlib.pyplot as plt
[2]
# Load your dataset (replace 'data.csv' with your data file)
data = pd.read_csv('/content/Data_Gov_Tamil_Nadu (1).csv')
# Explore the dataset (e.g., check for missing values, data types, etc.)
data.info()
data.head()
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 29941 entries, 0 to 29940
Data columns (total 17 columns):
Column Non-Null Count Dtype
--- ------ -------------- -----
0 CORPORATE_IDENTIFICATION_NUMBER 29941 non-null object
1 COMPANY_NAME 29941 non-null object
2 COMPANY_STATUS 29940 non-null object
3 COMPANY_CLASS 29629 non-null object
4 COMPANY_CATEGORY 29629 non-null object
5 COMPANY_SUB_CATEGORY 29629 non-null object
6 DATE_OF_REGISTRATION 29902 non-null object
7 REGISTERED_STATE 29940 non-null object
Connected to Python 3 Google Compute Engine backend


colab.research.google.com/drive/1mlhNXy0XQuq37O9pF-cF-vRVBlk_GYhJ
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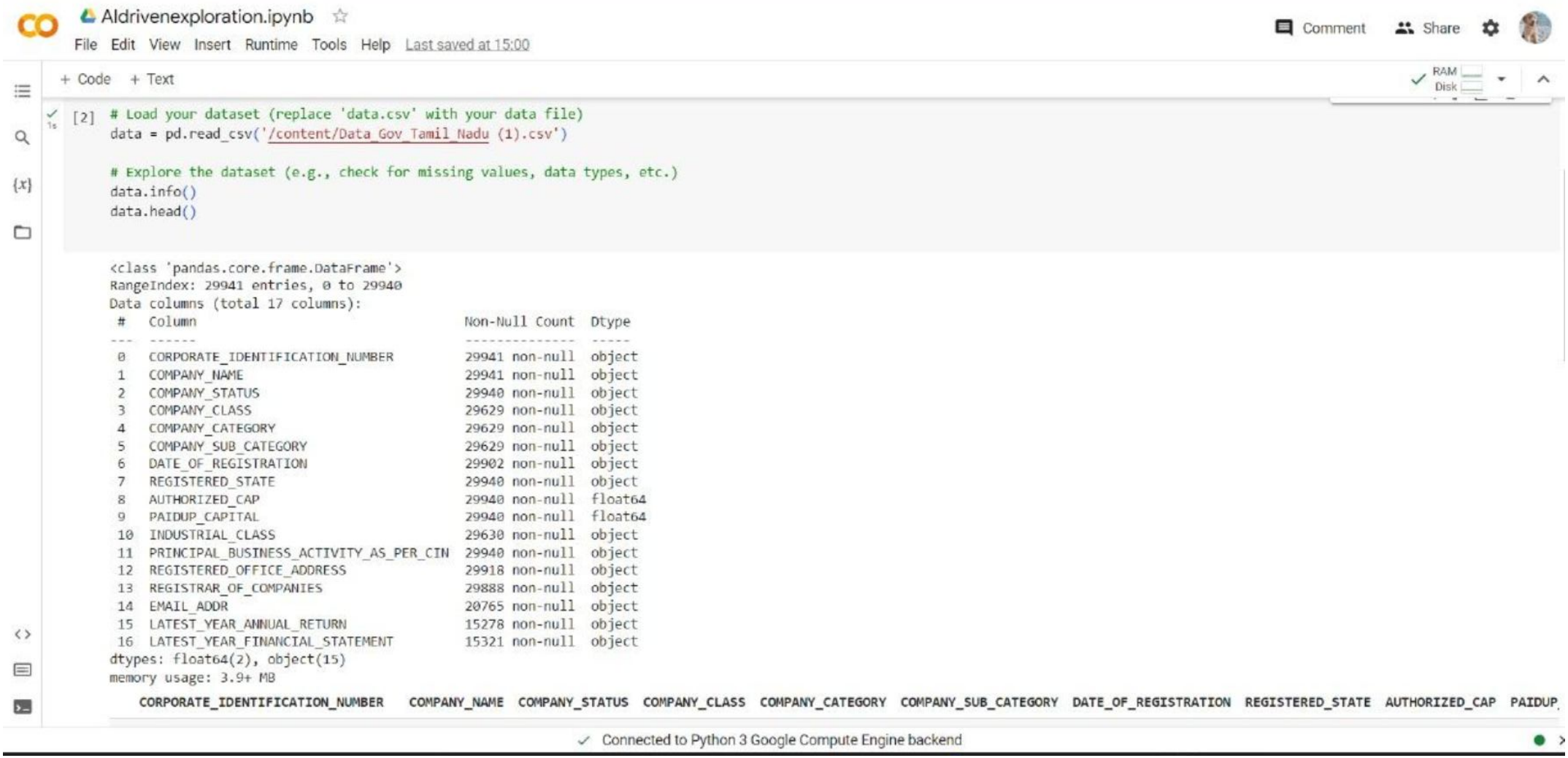
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7 REGISTERED_STATE 29940 non-null object
8 AUTHORIZED_CAP 29940 non-null float64
9 PAIDUP_CAPITAL 29940 non-null float64
10 INDUSTRIAL_CLASS 29630 non-null object
11 PRINCIPAL_BUSINESS_ACTIVITY_AS_PER_CIN 29940 non-null object
12 REGISTERED_OFFICE_ADDRESS 29918 non-null object
13 REGISTRAR_OF_COMPANIES 29888 non-null object
14 EMAIL_ADDR 20765 non-null object
15 LATEST_YEAR_ANNUAL_RETURN 15278 non-null object
16 LATEST_YEAR_FINANCIAL_STATEMENT 15321 non-null object
dtypes: float64(2), object(15)
memory usage: 3.9+ MB
CORPORATE_IDENTIFICATION_NUMBER COMPANY_NAME COMPANY_STATUS COMPANY_CLASS COMPANY_CATEGORY COMPANY_SUB_CATEGORY DATE_OF_REGISTRATION REGISTERED_STATE AUTHORIZED_CAP PAIDUP
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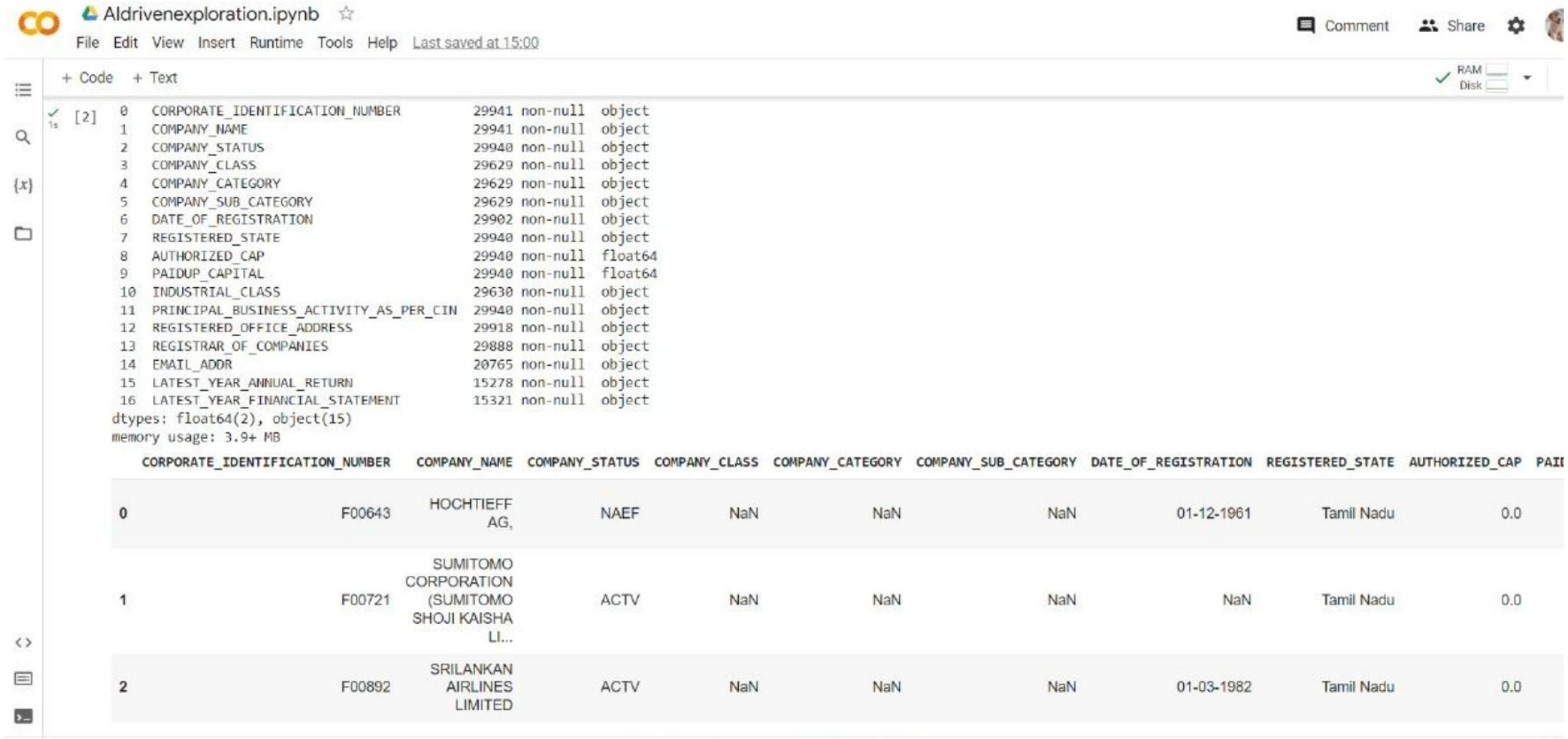
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CORPORATE_IDENTIFICATION_NUMBER COMPANY_NAME COMPANY_STATUS COMPANY_CLASS COMPANY_CATEGORY COMPANY_SUB_CATEGORY DATE_OF_REGISTRATION REGISTERED_STATE AUTHORIZED_CAP PAI
0 F00643 HOCHTIEFF AG, NAEF NaN NaN NaN 01-12-1961 Tamil Nadu 0.0
1 F00721 SUMITOMO CORPORATION (SUMITOMO SHOJI KAISHA LI... ACTV NaN NaN NaN NaN Tamil Nadu 0.0
2 F00892 SRILANKAN AIRLINES LIMITED ACTV NaN NaN NaN 01-03-1982 Tamil Nadu 0.0

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 9   PAIDUP_CAPITAL                          29940 non-null  float64
 10  INDUSTRIAL_CLASS                        29630 non-null  object
 11  PRINCIPAL_BUSINESS_ACTIVITY_AS_PER_CIN  29940 non-null  object
 12  REGISTERED_OFFICE_ADDRESS               29918 non-null  object
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 14  EMAIL_ADDR                              20765 non-null  object
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	CORPORATE_IDENTIFICATION_NUMBER	COMPANY_NAME	COMPANY_STATUS	COMPANY_CLASS	COMPANY_CATEGORY	COMPANY_SUB_CATEGORY	DATE_OF_REGISTRATION	REGISTERED_STATE	AUTHORIZED_CAP	PAIDUP
0	F00643	HOCHTIEFF AG,	NAEF	NaN	NaN	NaN	01-12-1961	Tamil Nadu	0.0	
1	F00721	SUMITOMO CORPORATION (SUMITOMO SHOJI KAISHA LI...	ACTV	NaN	NaN	NaN	NaN	Tamil Nadu	0.0	
2	F00892	SRILANKAN AIRLINES LIMITED	ACTV	NaN	NaN	NaN	01-03-1982	Tamil Nadu	0.0	
3	F01208	CALTEX INDIA LIMITED	NAEF	NaN	NaN	NaN	NaN	Tamil Nadu	0.0	
4	F01218	GE HEALTHCARE BIO-SCIENCES LIMITED	ACTV	NaN	NaN	NaN	NaN	Tamil Nadu	0.0	

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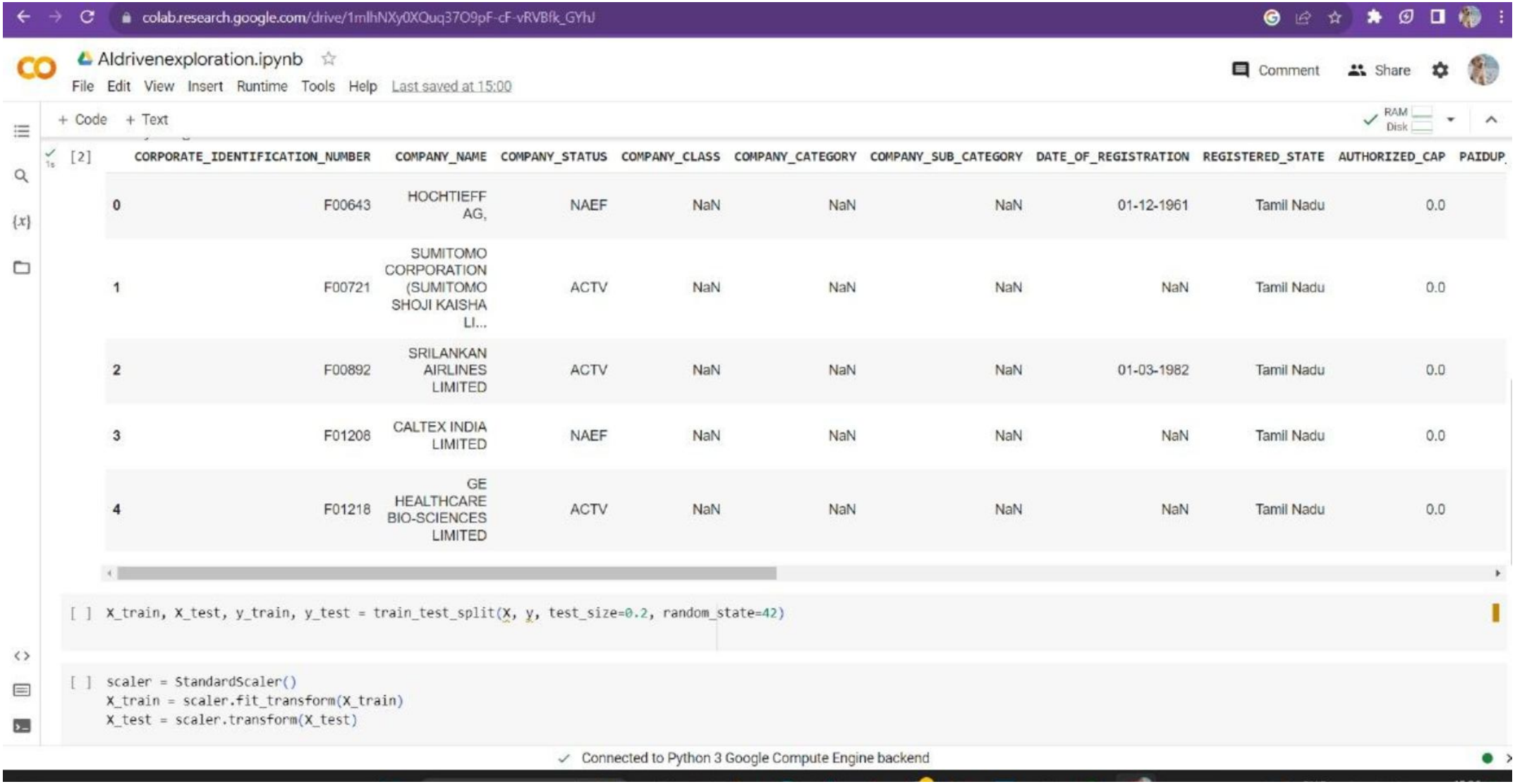
colab.research.google.com/drive/1mlhNXy0XQuq37O9pF-cF-vRVBfk_GYhJ
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3 F01208 CALTEX INDIA LIMITED NAEF NaN NaN NaN NaN Tamil Nadu 0.0
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[ ] X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.2, random_state=42)
[ ] scaler = StandardScaler()
X_train = scaler.fit_transform(X_train)
X_test = scaler.transform(X_test)
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selector = SelectKBest(score_func=chi2, k=10)
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Data_Gov_Tamil_Nadu (1).csv
80.89 GB available
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