#Importing header files

import pandas as pd

import numpy as np

import matplotlib.pyplot as plt

#Reading the file

data=pd.read\_csv(path)

#Code starts here

# Step 1

#Reading the file

df=pd.DataFrame(data)

#Creating a new variable to store the value counts

loan\_status=df['Loan\_Status'].value\_counts()

#Plotting bar plot

loan\_status.plot(kind='bar')

# Step 2

#Plotting an unstacked bar plot

property\_and\_loan=df.groupby(['Property\_Area', 'Loan\_Status']).size().unstack()

property\_and\_loan.plot(kind='bar', stacked=False, figsize=(15,10))

#Changing the x-axis label

plt.xlabel("Property Area")

#Changing the y-axis label

plt.ylabel("Loan Status")

#Rotating the ticks of X-axis

plt.xticks(rotation=45)

# Step 3

#Plotting a stacked bar plot

education\_and\_loan=df.groupby(['Education', 'Loan\_Status']).size().unstack()

education\_and\_loan.plot(kind='bar', stacked=True, figsize=(15,10))

#Changing the x-axis label

plt.xlabel("Education Status")

#Changing the y-axis label

plt.ylabel("Loan Status")

#Rotating the ticks of X-axis

plt.xticks(rotation=45)

# Step 4

#Subsetting the dataframe based on 'Education' column

#graduate=df(df['Education'] == 'Graduate')

graduate=df[df.Education == 'Graduate']

#Subsetting the dataframe based on 'Education' column

not\_graduate=df[df.Education == 'Not Graduate']

#Plotting density plot for 'Graduate'

graduate['LoanAmount'].plot(kind='density',label='Graduate')

#Plotting density plot for 'Graduate'

not\_graduate['LoanAmount'].plot(kind='density',label='Not Graduate')

#For automatic legend display

# Step 5

#Setting up the subplots

fig,(ax\_1,ax\_2,ax\_3)=plt.subplots(nrows=3, ncols=1)

#print(fig)

#Plotting scatter plot

ax\_1.scatter(df['ApplicantIncome'],df["LoanAmount"])

#Setting the subplot axis title

ax\_1.set\_title('Applicant Income')

#Plotting scatter plot

ax\_2.scatter(data['CoapplicantIncome'],data["LoanAmount"])

#Setting the subplot axis title

ax\_2.set\_title('CoapplicantIncome')

#Creating a new column 'TotalIncome'

df['TotalIncome']=df['ApplicantIncome']+df['CoapplicantIncome']

#Plotting scatter plot

ax\_3.scatter(data['TotalIncome'],data["LoanAmount"])

ax\_3.set\_title('Total Income')

#Setting the subplot axis title