**Practical No: 7**

**Implement Conditional Probability And Joint Probability using Python.**

**AIM: Implement joint probability using Python.**

**Code:**

import numpy as np

import matplotlib.pyplot as plt

import seaborn as sns

import pandas as pd

sns.set()

# Read the dataset

data = pd.read\_csv('/content/student-mat.csv')

# Create a joint plot

sns.jointplot(data=data, x='G3', y='absences', kind='kde')

# Display the plot

plt.show()

**Output:**

A graph of a graph showing a diagram

Description automatically generated with medium confidence

**b)** **AIM: Implement Conditional Probability using Python.**

**Code:**

import pandas as pd

df = pd.read\_csv('/content/student-mat.csv')

f.head(3)

len(df)

import numpy as np

df['grade\_A'] = np.where(df['G3']\*5 >= 80, 1, 0)

df['high\_absenses'] = np.where(df['absences'] >= 10, 1, 0)

df['count'] = 1

df = df[['grade\_A','high\_absenses','count']]

df.head()

pd.pivot\_table(

df,

values='count',

index=['grade\_A'],

columns=['high\_absenses'],

aggfunc=np.size,

fill\_value=0

)

**Output:**

A screenshot of a computer

Description automatically generatedA screenshot of a computer

Description automatically generated