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import pandas as pd
import matplotlib.pyplot as plt
import numpy as np

# Load Excel file
df = pd.read_excel("Case_Study_5_B.xlsx", usecols=["Name", "Marks"])

df["Percentage"] = (df["Marks"] / 15) * 100

above_75 = df[df["Percentage"] > 75]
between_60_75 = df[(df["Percentage"] >= 60) & (df["Percentage"] <= 75)]
below_60 = df[df["Percentage"] < 60]

print("\nStudents with >75%:")
print(above_75[["Name", "Percentage"]])

print("\nStudents with 60–75%:")
print(between_60_75[["Name", "Percentage"]])

print("\nStudents with <60%:")
print(below_60[["Name", "Percentage"]])

plt.figure(figsize=(8, 5))
plt.hist(df["Percentage"], bins=np.arange(0, 105, 5), color='purple')
plt.xlabel("Percentage")
plt.ylabel("Number of Students")
plt.title("Histogram Plot")
plt.grid(axis='y', linestyle='--', alpha=0.7)
plt.tight_layout()
plt.show()

plt.figure(figsize=(8, 5))
plt.scatter(range(len(df)), df["Percentage"], color='green')
plt.xlabel("Students")
plt.ylabel("Percentage")
plt.title("Scatter Plot")
plt.grid(True, linestyle='--', alpha=0.7)
plt.tight_layout()
plt.show()

```

Students with >75%:

	Name	Percentage
3	HARSHIT AWASTHI	76.000000
11	JYOTI GUPTA	93.333333
12	KANAV GUPTA	100.000000
22	KRISHNA RASTOGI	88.000000
28	KUSHAGRA SRIVASTAVA	80.666667
35	MEHUL GUPTA	80.000000

37	MUSKAN SINGH	100.000000
40	NIDHI YADAV	93.333333
45	NITIN PANDEY	80.000000
63	PRIYANSHU SINGH KUSHWAHA	93.333333
64	PUSHKAR SHRIVASTAVA	100.000000
68	RAHUL YADAV	86.666667
70	RAM JI TRIVEDI	100.000000

Students with 60–75%:

	Name	Percentage
0	HARSH GUPTA	66.666667
1	HARSH PRATAP YADAV	74.000000
4	HARSHIT SAINI	67.333333
5	HARSHIT SRIVASTAV	60.000000
6	HARSHIT TYAGI	60.000000
7	HIMANSHU JAISWAL	67.333333
10	JANAK SINGH	60.000000
16	KARTIK BANSAL	66.666667
18	KAVISH DAHIYA	60.666667
20	KESHAV MAHESHWARI	60.000000
24	KRITIKA TYAGI	66.666667
30	LOKENDRA	60.800000
44	NIMISHA AGRAWAL	65.333333
46	NITYA	67.466667
50	OM DUBEY	61.333333
51	PARI GARG	73.333333
53	PIYUSH KUMAR SINGH	68.000000
54	PRAHLAD KUMAR	66.666667
55	PRANAV SOM	74.133333
60	PRINCE KATIYAR	60.000000
69	RAM	66.666667
72	RISHABH KUMAR YADAV	74.000000

Students with <60%:

	Name	Percentage
2	HARSH RAJ MISHRA	40.666667
8	HIMANSHU MISHRA	56.000000
9	HONOURS BHADAURIA	53.333333
13	KANISHKA BHARDWAJ	33.333333
14	KARNVEER DIXIT	53.333333
15	KARTIK	47.333333
17	Kartikey singh	20.666667
19	KESHAV KISHORE	20.000000
21	KRISHNA KUMAR	26.666667
23	KRITIKA SINGH	26.666667
25	KUNAL SINGH THAKUR	20.000000
26	KUNDAN KUMAR YADAV	20.000000
27	KUNWAR SINGH	40.400000
29	LALIT SINGH	20.000000

31	MAHI KUMARI	54.666667
32	MAYANK KUMAR	40.000000
33	MAYANK TYAGI	17.333333
34	MEHAK SAINI	40.266667
36	MRITUNJAY KUMAR JHA	27.333333
38	NANDINI TYAGI	34.000000
39	NAVNEET PATHAK	48.000000
41	NIHARIKA CHAURASIA	20.000000
42	NIKHIL PARIHAR	33.333333
43	NILESH KUMAR YADAV	33.333333
47	NUMAN AHMAD	26.666667
48	OJAS AGARWAL	53.333333
49	OJASV MISHRA	40.000000
52	PARI GUPTA	34.000000
56	PRASOON KUMAR	20.000000
57	PRATEEK SINGH	20.666667
58	PRATIBHA SINGH	9.333333
59	PRATYAKSH VARSHNEY	48.000000
61	PRIYANSHU DESHWAL	46.666667
62	PRIYANSHU SAHU	40.000000
65	RACHIT GAUTAM	49.866667
66	RAGHAV KUMAR	26.666667
67	RAGHAV PATHAK	44.933333
71	Rihan	45.333333



