STUDENT PERFORMANCE TRACKER

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INTRODUCTION

This project is designed to track the academic performance of students using **MS Excel and Python programming.**

Initially, student data and marks were created and managed in **MS Excel**, where formulas were used to calculate total marks, percentage, and grades.

Later, **Python programming** was used to perform the same calculations through coding in order to understand automation and programming logic.

The final data is analyzed and presented using **Pivot Tables and Pie Charts** in Excel for better visualization of student performance.

OBJECTIVE

- To generate student marks using Python programming
- To calculate total marks and percentage automatically using formulas
- To assign grade based on student performance
- To store and analyze data in MS Excel
- To visualize student performance using Pivot Tables and Pie Charts

TOOLS USED

- MS Excel (Data entry, formulas, pivot table, charts)
- MS Word (Documentation)
- Python (Optional: calculation & automation)
- ChatGPT (Prompt assistance)

USE OF PYTHON

Python is a programming language that can be used to automate student performance tracking.

In this project, Python can help in calculating total marks, percentage, average, and grades of students.

It can also be used to store student data and generate results automatically, which saves time and reduces manual errors.

Python is very useful for handling large data efficiently.

PROJECT WORKING

Step 1: Marks of each student were entered in Excel.

Step 2: Total marks and percentage were calculated using Excel formulas.

Step 3: Grades were assigned automatically using IF formulas.

BEST CHILDREN ACADEMY
MARKSEET

ROLL NO	NAME	SUB1	SUB2	SUB3	TOTAL	OBTAIN	PERCENT	GRADE
111	ASLAM	41	60	85	225	186	82.666667	A+
112	AQIB	42	61	90	225	193	85.777778	A+
113	AHAD	43	62	99	225	204	90.666667	A+
114	ALI	49	63	92	225	204	90.666667	A+
115	BABAR	44	64	60	225	168	74.666667	A
116	DANIAL	33	55	79	225	167	74.222222	A
117	DAWOOD	35	45	64	225	144	64	B
118	FARIS	22	73	50	225	145	64.444444	B
119	FAWAD	43	73	88	225	204	90.666667	A+
120	FEROZ	41	54	99	225	194	86.222222	A+
121	GHANI	34	65	77	225	176	78.222222	A
122	HUNAIN	36	60	66	225	162	72	A
123	HASNAIN	50	60	44	225	154	68.444444	B
124	HAMID	30	60	66	225	156	69.333333	B
125	IBRAHIM	22	68	65	225	155	68.888889	B
126	IDREES	27	68	90	225	185	82.222222	A+
127	JAWAID	40	67	80	225	187	83.111111	A+
128	JAWWAD	40	71	70	225	181	80.444444	A+
129	KAMAL	40	74	60	225	174	77.333333	A
130	MUEEZ	45	73	88	225	206	91.555556	A+

FORMULAS USED IN MARKSHEET

=RANDBETWEEN (30,99), for random numbers

=SUM (C2:E2), for addition

=(G2/F2) *100, for percentage

=IF(H2>=80,"A+", IF(H2>=70,"A", IF(H2>=60,"B", IF(H2>=50,"C","Fail")))), for grade

Step 4: Pivot Table was created to analyze grade-wise student performance.

Row Labels	Count of ROLL NO	Average of PERCENT
A	5	75.28888889
A+	10	86.4
B	5	67.02222222
Grand Total	20	78.77777778

Step 5: Pie Chart was used to visualize grade distribution.

Count of ROLL NO   Average of PERCENT

Grade Wise Average Percentage

GRADE ▼
■ A
■ A+
▪ B

Values
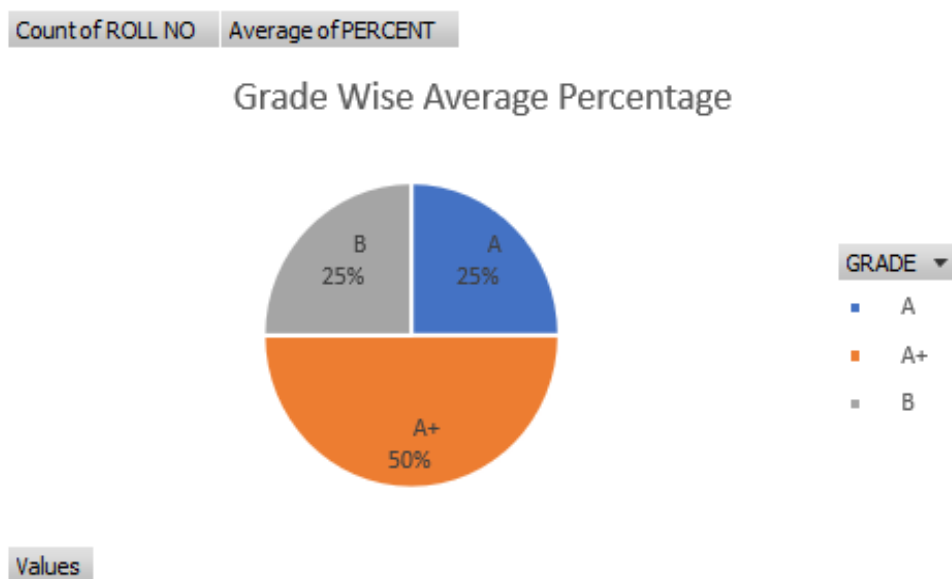
This chart shows performance distribution.

PROMPT ENGINEERING

ChatGPT was used to understand concepts related to Python programming and data analysis.

It helped in learning how student percentages and grades can be calculated conceptually.

NETWORKING OVERVIEW

Networking concepts were applied to explain how student data can be

shared between systems over LAN and WAN. This ensures that records

can be accessed and updated efficiently in real-time.

CONCLUSION

The Student Performance Tracker project successfully manages and analyzes student academic data using **MS Excel and Python programming.**

Initially, Excel was used to record marks and calculate total marks, percentage, and grades using formulas. Later, Python coding was applied to understand automation and perform calculations programmatically.

The project also includes **data visualization using Pivot Tables and Pie Charts**, which helps in better understanding student performance.

Additionally, basic **networking concepts (LAN and WAN)** were studied to understand how student data can be shared between systems.

Overall, this project improves practical knowledge of spreadsheets, programming, data analysis, and basic networking, making it useful for educational institutions to monitor students' academic progress efficiently