SEMESTER PROJECT (4TH SEM 2023-2027)

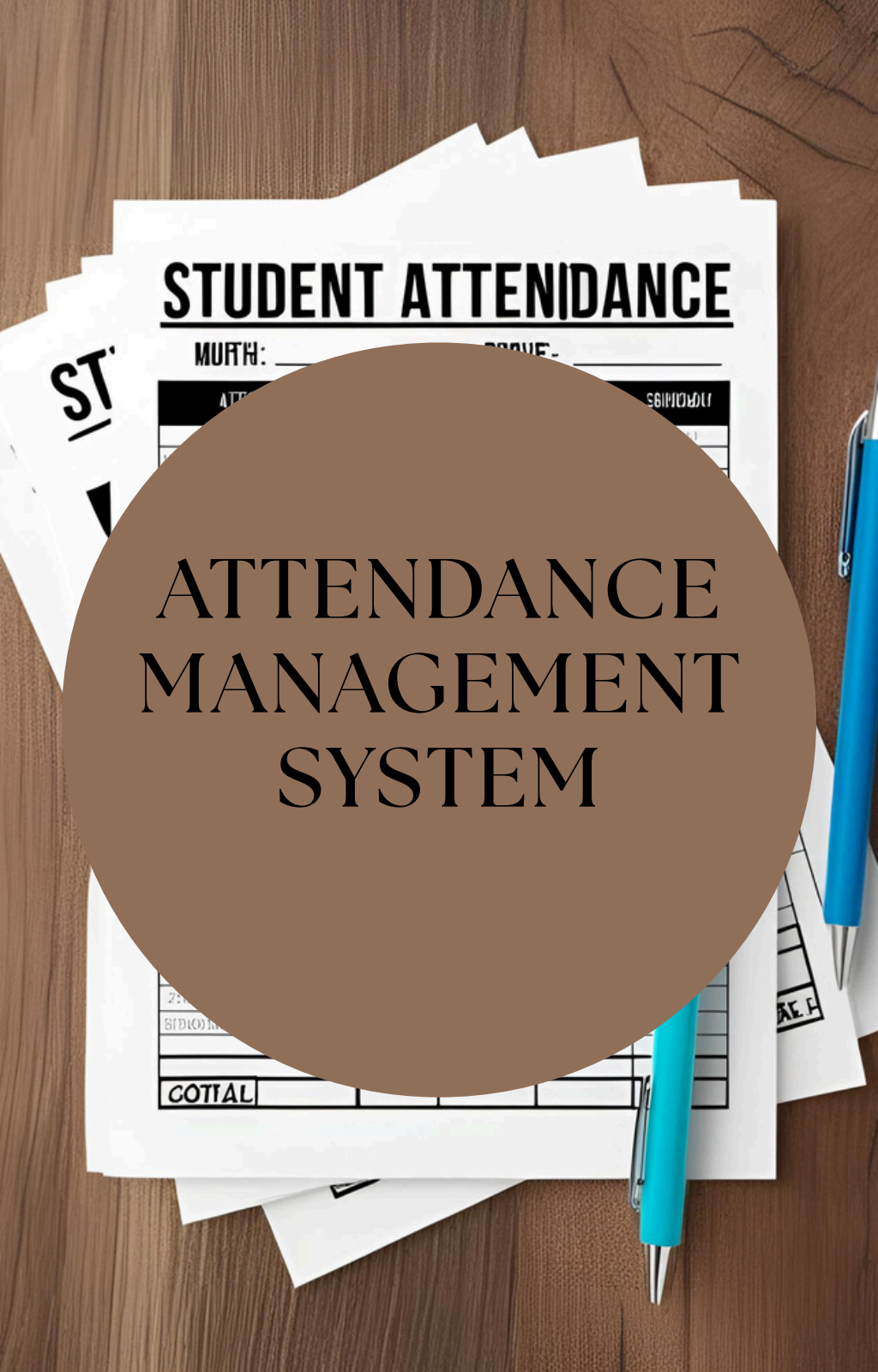
ATTENDANCE MANAGEMENT SYSTEM

USING
PYTHON
MACHINE LEARNING
FLASK
HTML , CSS

SUBMITTED BY = SARAL PANDEY
ROLL - NO = 021323035
4TH SEMESTER

CollegeDekho
ImaginXP | ASSURED

Jagannath University
DELHI NCR | BAHADURGARH


STUDENT ATTENDANCE
ATTENDANCE MANAGEMENT SYSTEM

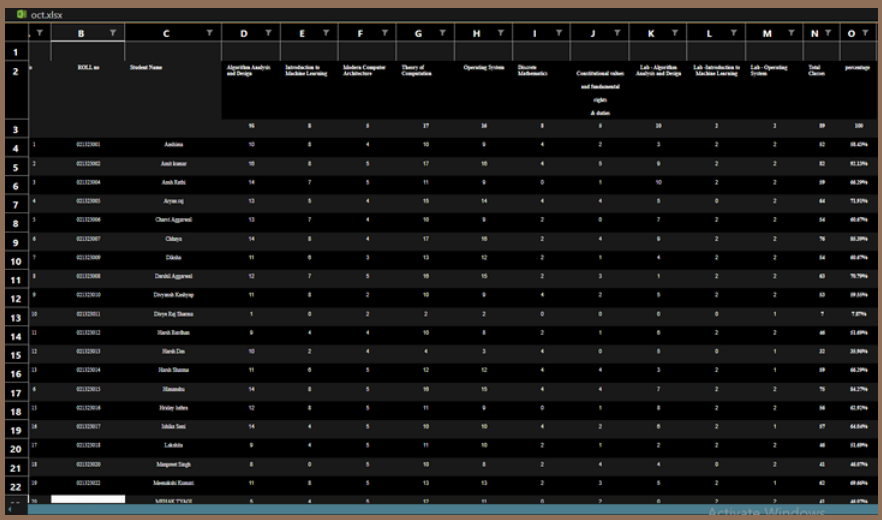
ATTENDANCE MANAGEMENT SYSTEM

EFFORTLESSLY TRACK STUDENT ATTENDANCE AND PREDICT AVAILABLE BUNKS WITH MY BUNK PREDICTION SYSTEM. THIS INTELLIGENT TOOL HELPS STUDENTS MONITOR THEIR ATTENDANCE STATUS AND PLAN THEIR HOLIDAYS SMARTLY, ENSURING THEY MEET THE MINIMUM 75% ATTENDANCE REQUIREMENT SET BY THE COLLEGE.

✨ HOW IT WORKS:

DATA INPUT

THE MODEL ACCEPTS ATTENDANCE DATA FROM AN EXCEL SHEET OR CSV FILE, CONTAINING EACH STUDENT'S MONTHLY ATTENDANCE RECORD.



oct.xlsx

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1															
2	S.No.	ROLL no	Student Name	Algorithm Analysis and Design	Introduction to Machine Learning	Modern Computer Architecture	Theory of Computation	Operating System	Discrete Mathematics	Constitutional values and fundamental rights & duties	Lab - Algorithm Analysis and Design	Lab -Introduction to Machine Learning	Lab -Operating System	Total Classes	percentage
3				96	8	8	27	26	8	8	20	2	3	89	100
4	1	021323001	Aashima	10	8	4	10	9	4	2	3	2	2	62	68.43%
5	2	021323002	Amit kumar	10	8	5	17	16	4	5	9	2	2	82	92.13%
6	3	021323004	Ansh Rathi	14	7	5	11	9	0	1	10	2	2	59	66.29%
7	4	021323005	Aryan raj	13	5	4	15	14	4	4	5	0	2	64	71.91%
8	5	021323006	Charvi Aggarwal	13	7	4	10	9	2	0	7	2	2	56	62.87%
9	6	021323007	Chhaya	14	8	4	17	16	2	4	9	2	2	78	87.64%
10	7	021323009	Diksha	11	6	3	13	12	2	1	4	2	2	54	60.67%
11	8	021323008	Darshil Aggarwal	12	7	5	16	15	2	3	1	2	2	63	70.79%
12	9	021323010	Divyansh Kashyap	11	8	2	10	9	4	2	5	2	2	55	61.80%
13	10	021323011	Divya Raj Sharma	1	0	2	2	2	0	0	0	0	1	7	7.87%
14	11	021323012	Harsh Sardhan	9	4	4	10	8	2	1	8	2	3	61	68.54%
15	12	021323013	Harsh Das	10	2	4	4	3	4	0	6	0	1	32	35.96%
16	13	021323014	Harsh Sharma	11	6	5	12	12	4	4	3	2	1	59	66.29%
17	14	021323015	Himanshu	14	8	5	16	15	4	4	7	2	3	78	84.27%
18	15	021323016	Hridoy Johri	12	8	5	11	9	0	1	8	2	2	58	65.17%
19	16	021323017	Ishika Soni	14	4	5	10	10	4	2	6	2	1	57	64.04%
20	17	021323018	Lakshita	9	4	5	11	10	2	1	2	2	2	48	53.89%
21	18	021323020	Manpreet Singh	8	0	5	10	8	2	4	4	0	2	43	48.07%
22	19	021323022	Meenakshi Kumari	11	8	5	13	13	2	3	8	2	1	62	69.66%
23	20		MINAKSHI TYAGI	6	4	6	17	11	0	3	8	2	2	43	48.07%

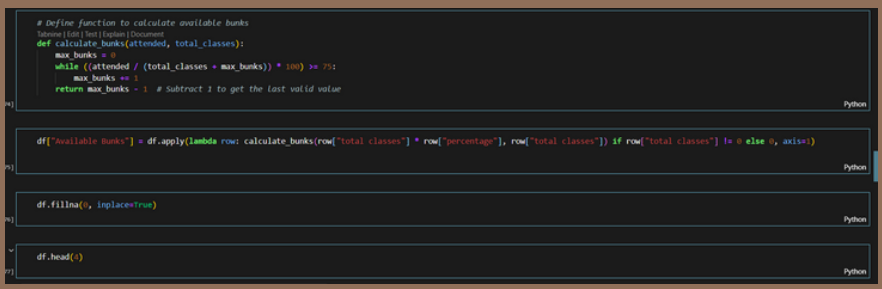
Activate Windows

CALCULATION LOGIC:

- IT CALCULATES THE CURRENT ATTENDANCE PERCENTAGE FOR EACH STUDENT BASED ON THE TOTAL NUMBER OF CLASSES AND THE NUMBER OF CLASSES ATTENDED.
- THE MODEL THEN COMPUTES THE AVAILABLE BUNKS A STUDENT CAN TAKE WITHOUT DROPPING BELOW THE REQUIRED 75% ATTENDANCE THRESHOLD.

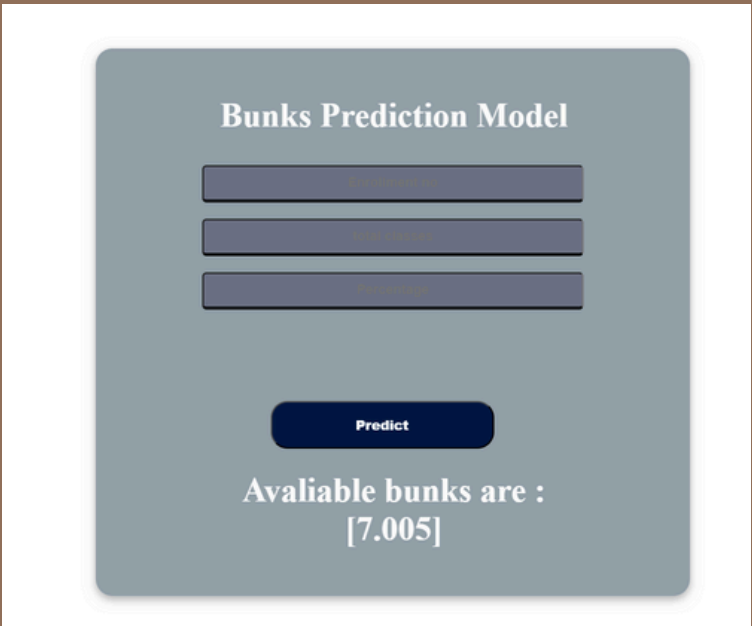
THRESHOLD CHECK:

- IF THE STUDENT'S ATTENDANCE IS BELOW 75%, THE MODEL OUTPUTS -1, INDICATING THEY ARE AT RISK AND CANNOT AFFORD MORE BUNKS.
IF THE ATTENDANCE IS ABOVE 75%, IT DISPLAYS THE REMAINING BUNKS AVAILABLE SAFELY.



REAL-TIME UPDATE:

- THE MODEL UPDATES THE PREDICTIONS AS NEW ATTENDANCE RECORDS ARE ADDED, GIVING STUDENTS A CLEAR VIEW OF THEIR CURRENT STATUS.



✨ FEATURES:

BUNK PREDICTION LOGIC: INSTANTLY CALCULATES THE NUMBER OF AVAILABLE BUNKS BASED ON MONTHLY ATTENDANCE

REAL-TIME ANALYSIS: CONTINUOUSLY UPDATES PREDICTIONS AS ATTENDANCE DATA IS MODIFIED.

THRESHOLD ALERT: AUTOMATICALLY FLAGS STUDENTS WHO FALL BELOW THE REQUIRED 75%, RETURNING -1 AS A WARNING.

BULK DATA PROCESSING: EFFICIENTLY HANDLES MULTIPLE STUDENTS' ATTENDANCE RECORDS FROM EXCEL SHEETS.

BOOSTS ACCOUNTABILITY: ENCOURAGES STUDENTS TO ATTEND CLASSES REGULARLY TO MAINTAIN ELIGIBILITY.

AVOIDS MISCALCULATIONS: PROVIDES CLEAR VISIBILITY INTO THE NUMBER OF SAFE BUNKS, PREVENTING ACCIDENTAL SHORTFALLS.

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df.head(4)
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	roll no	student name	total classes	percentage	Available Bunks
0	21323001	Aashima	52.0	0.5843	-1
1	21323002	Amit kumar	82.0	0.9213	18
2	21323004	Ansh Rathi	59.0	0.6629	-1
3	21323005	Aryan raj	64.0	0.7191	-1

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df.sample(5)
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	roll no	student name	total classes	percentage	Available Bunks
23	21323027	Nitin	57.0	0.6404	-1
25	21323029	Parth Talwar	49.0	0.5506	-1
11	21323013	Harsh Das	32.0	0.3596	-1
24	21323028	PARITOSH BHARDWAJ	80.0	0.8989	15
14	21323016	Hriday luthra	56.0	0.6292	-1

🔍 TECHNOLOGIES USED:

PROGRAMMING LANGUAGE: PYTHON

LIBRARIES: PANDAS, NUMPY, SCIKIT-LEARN

DATA HANDLING: EXCEL FILE PROCESSING WITH OPENPYXL AND PANDAS

DEPLOYMENT: READY FOR INTEGRATION INTO COLLEGE PORTALS OR DESKTOP APPLICATIONS.

🚀 IMPACT: THIS SYSTEM NOT ONLY HELPS STUDENTS KEEP TRACK OF THEIR ATTENDANCE BUT ALSO PREVENTS ACCIDENTAL SHORTFALLS, ENSURING ELIGIBILITY FOR EXAMS WITH A CLEAR VIEW OF AVAILABLE LEAVES.

GITHUB REPOSITORY LINK IS HERE

HTTPS://GITHUB.COM/SARALPANDEY/ATTENDANCE-ML-MODEL-