

Database: Class Teacher's Attendance Register

Understanding the SQL basics

Our School Class Teacher carried a Database in her hand everyday.

Action	Teacher	SQL CREATE																																										
New Month	<table><tr><th>ROLL NO.</th><th>STUDENT NAME</th><th>1/1</th><th>2/1</th><th>3/1</th><th>....</th><th>Total</th></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table> <p>Teacher created a table for every month with all the columns in a new page and drew the lines.</p>	ROLL NO.	STUDENT NAME	1/1	2/1	3/1	Total																																				<p>CREATE TABLE JANUARY (</p> <p>ROLL_NO NUMBER PRIMARY KEY,</p> <p>STUDENT_NAME VARCHAR,</p> <p>DAY_1 BOOLEAN,</p> <p>DAY_2 BOOLEAN,</p> <p>....</p> <p>DAY_31 BOOLEAN,</p> <p>TOTAL NUMBER</p> <p>);</p>
ROLL NO.	STUDENT NAME	1/1	2/1	3/1	Total																																						

She maintained all the Data inside the register by adding students, marking attendance, removing students etc.

Action	Teacher	SQL INSERT																																			
Add Students	<table><tr><th>ROLL NO.</th><th>STUDENT NAME</th><th>1/1</th><th>2/1</th><th>3/1</th><th>....</th><th>Total</th></tr><tr><td>1</td><td>Me</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>2</td><td>You</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>3</td><td>That Friend</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>4</td><td>That Enemy</td><td></td><td></td><td></td><td></td><td></td></tr></table>	ROLL NO.	STUDENT NAME	1/1	2/1	3/1	Total	1	Me						2	You						3	That Friend						4	That Enemy						<p>INSERT INTO JANUARY (ROLL_NO, STUDENT_NAME) VALUES (1, 'You');</p>
	ROLL NO.	STUDENT NAME	1/1	2/1	3/1	Total																														
	1	Me																																			
	2	You																																			
	3	That Friend																																			
4	That Enemy																																				
		<p>INSERT INTO JANUARY (ROLL_NO, STUDENT_NAME) VALUES (2, 'Me');</p>																																			
		<p>INSERT INTO JANUARY (ROLL_NO, STUDENT_NAME) VALUES (3, 'That Friend');</p>																																			
		<p>INSERT INTO JANUARY (ROLL_NO, STUDENT_NAME) VALUES (4, 'That Enemy');</p>																																			
	Teacher added all the students with their roll number and name.																																				

Updating the register was an everyday task for her.

Action	Teacher	SQL UPDATE																																			
Mark Attendance	<table><tr><th>ROLL NO.</th><th>STUDENT NAME</th><th>1/1</th><th>2/1</th><th>3/1</th><th>....</th><th>Total</th></tr><tr><td>1</td><td>Me</td><td>X</td><td></td><td></td><td></td><td></td></tr><tr><td>2</td><td>You</td><td>X</td><td></td><td></td><td></td><td></td></tr><tr><td>3</td><td>That Friend</td><td>X</td><td></td><td></td><td></td><td></td></tr><tr><td>4</td><td>That Enemy</td><td>A</td><td></td><td></td><td></td><td></td></tr></table>	ROLL NO.	STUDENT NAME	1/1	2/1	3/1	Total	1	Me	X					2	You	X					3	That Friend	X					4	That Enemy	A					<p>UPDATE JANUARY SET DAY_1 = True WHERE ROLL_NO = 1;</p> <p>UPDATE JANUARY SET DAY_1 = True WHERE ROLL_NO = 2;</p> <p>UPDATE JANUARY SET DAY_1 = True WHERE ROLL_NO = 3;</p> <p>UPDATE JANUARY SET DAY_1 = False WHERE ROLL_NO = 4;</p>
	ROLL NO.	STUDENT NAME	1/1	2/1	3/1	Total																														
	1	Me	X																																		
	2	You	X																																		
	3	That Friend	X																																		
4	That Enemy	A																																			
Teacher marked 'X' for the students who are present and 'A' for absentees.																																					

She had to keep in account whenever a student got dropped out.

Action	Teacher	SQL DELETE																																			
Remove Student	<table><tr><th>ROLL NO.</th><th>STUDENT NAME</th><th>1/1</th><th>2/1</th><th>3/1</th><th>....</th><th>Total</th></tr><tr><td>1</td><td>Me</td><td>X</td><td>X</td><td>X</td><td></td><td></td></tr><tr><td>2</td><td>You</td><td>X</td><td>A</td><td>X</td><td></td><td></td></tr><tr><td>3</td><td>That Friend</td><td>X</td><td>X</td><td>X</td><td></td><td></td></tr><tr><td>4</td><td>That Enemy</td><td>A</td><td>A</td><td>A</td><td></td><td></td></tr></table> <p>Teacher struck out the row of the dropped out student to have it marked removed forever.</p>	ROLL NO.	STUDENT NAME	1/1	2/1	3/1	Total	1	Me	X	X	X			2	You	X	A	X			3	That Friend	X	X	X			4	That Enemy	A	A	A			DELETE FROM JANUARY WHERE ID = 4;
	ROLL NO.	STUDENT NAME	1/1	2/1	3/1	Total																														
1	Me	X	X	X																																	
2	You	X	A	X																																	
3	That Friend	X	X	X																																	
4	That Enemy	A	A	A																																	

She could tell how many days we were present in the class.

Action	Teacher	SQL SELECT																																			
Find Total	<table><tr><th>ROLL NO.</th><th>STUDENT NAME</th><th>1/1</th><th>2/1</th><th>3/1</th><th>....</th><th>Total</th></tr><tr><td>1</td><td>Me</td><td>X</td><td>X</td><td>X</td><td>....</td><td>20</td></tr><tr><td>2</td><td>You</td><td>X</td><td>A</td><td>X</td><td>....</td><td>18</td></tr><tr><td>3</td><td>That Friend</td><td>X</td><td>X</td><td>X</td><td>....</td><td>21</td></tr><tr><td>4</td><td>That Enemy</td><td>A</td><td>A</td><td>A</td><td></td><td></td></tr></table> <p>Teacher traced down to the student's name and finds the total in the end of the row.</p>	ROLL NO.	STUDENT NAME	1/1	2/1	3/1	Total	1	Me	X	X	X	20	2	You	X	A	X	18	3	That Friend	X	X	X	21	4	That Enemy	A	A	A			SELECT TOTAL FROM JANUARY WHERE STUDENT_NAME='That Friend';
	ROLL NO.	STUDENT NAME	1/1	2/1	3/1	Total																														
1	Me	X	X	X	20																															
2	You	X	A	X	18																															
3	That Friend	X	X	X	21																															
4	That Enemy	A	A	A																																	

END

“Programming is an art of doing one thing at a time.”